APRIL 1958

# Traffic Safety

FORMERLY PUBLIC SAFETY

A NATIONAL SAFETY COUNCIL PUBLICATION

## *Good Start:* Traffic Deaths Still Going Down

# SPEED CONTROL

- The Rural Problem
- The City Problem

*and "Operation Safety" blueprints a speed control program*

*Also in this issue:*

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# MAIL BAG

## letters to the editor

Dear Sir:

I wish to express our appreciation for the excellent article on seat belts, and the role of the Subcommittee on Traffic Safety in investigating this safety device, which appeared in TRAFFIC SAFETY.

As a result of the subcommittee's intensive and impartial investigation, it is my conviction that the use of this safety device would greatly protect motorists involved in automobile accidents. Until the public, however, is more fully aware of the protection this safety device affords them, our high death and injury rates in accidents will persist. It is for this reason I feel your article is very valuable in awakening the public to the value of this safety device and I wish to commend you for the effort which you have made.

Sincerely yours,

Kenneth A. Roberts
Chairman,
Special Subcommittee
on Traffic Safety
U. S. House of Representatives

Dear Sir:

I believe many ambiguities in your article "Oakland's Hard-Headed Police" will be spotted by major municipal police departments.

After thorough analysis of existing products, the Los Angeles Police Relief Association actually financed development of the TOPTEX police helmet. It is this helmet which is in use by the California Highway Patrol, LAPD, Hawaii, Canada, and now, I understand, by Oakland. This same helmet set new standards for safety in competitive tests by the Snell Foundation Sports Car Club of America.

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# Traffic Safety

FORMERLY PUBLIC SAFETY

Volume 52 Number 4 APRIL 1958

A NATIONAL SAFETY COUNCIL PUBLICATION



TRAFFIC SAFETY is dedicated to the prevention of traffic accidents through the presentation of objective information and responsible opinion to official agencies, public support groups and the motor transportation industry. The views expressed do not necessarily reflect the beliefs or policies of the National Safety Council, but they are presented in the conviction that the pressing social problem of traffic accidents can best be resolved through freedom of expression and open debate.

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## BETWEEN STOPS

**WAY BACK in the dim reaches of antiquity an unsung genius of his time invented the wheel. It has served mankind long and faithfully, but now we see by the papers that it is on its way out. An auto engineer sees the car of the future riding on jets of air instead of wheels.**

**What's more, the air jets will let the family buggy get up in the air as much as 100 feet. Thus the safety movement, still struggling to control 300 million assorted wheels rolling in two dimensions, is confronted with a third dimension—up and down.**

**Terrifying thoughts crowd the mind's eye—Sunday drivers leapfrogging over one another in the afternoon jam, hot-rodders playing literal versions of "chicken" on the fly, squad cars chasing miscreants over fence and hedgerow, even souped-up jobs trying for altitude records.**

**At least, the tail fins are beginning to make sense.**

# YEAR OFF TO GOOD START— TRAFFIC DEATHS DOWN

## January death toll was 2,730, down 5 per cent
## Lowest first month toll since 1942

MOTOR-VEHICLE traffic deaths continued their downward trend into 1958. The total for the month of January was 2,730, down 5 per cent from the January, 1957 total of 2,870.

This was the lowest January death total since 1952 when 2,625 were killed. With an increase of over 22 per cent in motor-vehicle registrations since 1952 (an additional 12,000,000 cars on U. S. Highways); this low January death total is a greater accomplishment than the 5 per cent decrease indicates.

Among 47 states reporting January experience, 21 had fewer deaths than last January, 4 reported no change, and 22 had increase.

Decreases of 50 per cent or more were reported by New Hampshire, Vermont and Utah, while decreases over 40 per cent included Arkansas, North Carolina and Delaware.

Council officials attributed the improvement to the same factors they believe brought about the 3 per cent reduction in 1957—greater effort by public officials and traffic enforcement agencies, better driving by motorists, safer cars, and a growing determination by the public that the bloodshed on the highway must stop.

The decrease for the nation in January apparently resulted primarily from improvement in rural areas. Among 632 reporting cities, deaths were unchanged over the same period a year ago.

Of the 632 cities, 474 had perfect records in January. Decreases in deaths were reported by 11 cities. One hundred and one cities had more deaths than a year earlier.

Of the cities with perfect records in January, the three largest were: Kansas City, Mo. (457,600), Long Beach, Calif., (336,100), and Norfolk, Virginia, (300,700).

*To Page 51*

### Leading at the End of January

#### States

| | | | |
|---|---|---|---|
| New Hampshire | — 67% | Texas | — 20% |
| Vermont | — 57% | Indiana | — 20% |
| Utah | — 50% | South Carolina | — 20% |
| Arkansas | — 48% | Nevada | — 20% |
| North Carolina | — 45% | Mississippi | — 16% |
| Delaware | — 43% | Michigan | — 11% |
| Missouri | — 36% | Virginia | — 10% |
| Kentucky | — 33% | Arizona | — 9% |
| Connecticut | — 33% | California | — 7% |
| Illinois | — 32% | West Virginia | — 6% |
| Wisconsin | — 24% | | |

#### Cities

| | | | |
|---|---|---|---|
| Kansas City, Mo. | —100% | San Francisco, Calif. | — 50% |
| Long Beach, Calif. | —100% | Rochester, N. Y. | — 50% |
| Flint, Mich. | —100% | Dayton, Ohio | — 50% |
| Oakland, Calif. | — 83% | Milwaukee, Wis. | — 43% |
| Birmingham, Ala. | — 83% | Cincinnati, Ohio | — 38% |
| Indianapolis, Ind. | — 80% | Portland, Ore. | — 33% |
| Dallas, Tex. | — 75% | St. Louis, Mo. | — 29% |
| Akron, Ohio | — 71% | Chicago, Ill. | — 26% |
| Toledo, Ohio | — 67% | Memphis, Tenn. | — 25% |
| Washington, D. C. | — 60% | Philadelphia, Pa. | — 11% |
| New Orleans, La. | — 55% | Detroit, Mich. | — 8% |

**Fellowships for engineers**

Because of the increasing scarcity of traffic engineers, the Bureau of Highway Traffic at Yale University is offering a series of fellowships and scholarships for the academic year beginning next September. The fellowships are available to qualified graduate engineers. They cover a full academic year of graduate study and are worth $2,000 each.

**Record in *Record***

Proud of Milwaukee's record of having fewer traffic deaths in 1957 than any other city with a population of 500,000 or more, Senator Wiley of Wisconsin had an article describing the city's accomplishment printed in the *Congressional Record*.

**Governor rates honors**

Illinois' Governor Stratton recently received an Allstate Safety Crusade certificate of commendation for his leadership in developing his state's traffic safety program. Points of the program receiving special praise were: establishing of an absolute speed limit, financial assistance to the high school driver training program, an 80 per cent increase in the state police force, mandatory re-examination of drivers over 70 years of age, and setting of standards for chemical drunk driving tests.

The governor also received from the Association of Casualty and Surety Companies an Award of Excellence recognizing Illinois' public high school driver education program as one of the nation's strongest.

**Four-year driving check**

Indiana motorists are driving this year under new safety laws that will require them to have their vision tested and be re-examined on the rules of the highways every four years. To pass the information test motorists must be able to answer seven out of ten questions and be able to identify the silhouettes of highway signs used in the state.

**What they eat on road**

Apparently the New York Thruway motorist travels best on hamburger and coffee with a slab of apple pie to top it off. A year-end survey of the superhighway's restaurants showed an estimated 2,311,800 hamburgers were consumed last year compared to 1,016,500 hot dogs. Cups of coffee totaled 4,757100 compared to 1,761,400 glasses of milk. There were an estimated 1,284,100 pieces of pie dished out, with apple the overwhelming favorite.

**Seat belts for N. Y. cars**

Governor Harriman of New York has advanced the cause of seat belts in a tangible way. The governor recently directed that all autos purchased by the state must be equipped with safety belts on front seats.

**Wants downtown ban on autos**

The automobile is "strangling" downtown business in cities throughout the country, according to Paul O. Dittmar, president of South Suburban Safe Way Lines, Inc. Here are Dittmar's suggestions for solving downtown traffic problems: keep automobiles off transit streets and out of downtown; give transit vehicles the right of way on separate lanes in

heavily traveled streets; provide adequate off-street automobile parking outside the downtown area and on transit streets in order to make effective a "park and ride" plan.

**Check your lights?**

Travelers in Indiana now-a-days are pleasantly surprised to find that a visit to a service station in the Hoosier state usually includes a free inspection of front and rear lights as part of the regular servicing. The light inspection campaign which got underway in February is under the joint sponsorship of the Indiana State Police and the Office of Traffic Safety. Major petroleum companies are enthusiastically cooperating.

**KEX award**

Radio Station KEX of Portland, Ore., recently announced the establishment of an annual KEX Traffic Safety Achievement Award offering a $500,000 cash grant to any non-professional Oregon group which contributes the most to traffic accident prevention in its area.

**Parkway again safety leader**

The Garden State Parkway was a national leader in highway safety again last year. New Jersey's 173-mile toll road completed 1957 with an accident rate of 65.1, an injury rate of 38.9, and a fatality rate of 1.3, each per 100,000,000 vehicle miles. There were 19 deaths in 14 fatal accidents, all except one involving single vehicles. A total of 1,448,287,000 vehicle miles was traveled on the Parkway last year as compared to 51,345,953 in 1956.

**Traveling billboards**

"Traveling billboards" on shipping containers are the newest advertising medium to be utilized for traffic safety promotion. Under a new program developed by Stone Container Corporation in cooperation with the Advertising Council, business firms may carry public service messages—traffic safety or other types—at no extra cost. Container designs do their advertising job as they travel from factory to user. One survey estimates that a single box may be seen by as many as 1,100 persons.

**Another record for toll road**

During Indiana's big February snowstorm the Indiana Toll Road set another record. On the worst day of the blizzard, 4,087 trucks and buses rolling on the highway—while other routes were closed—brought in $15,686 in tolls. The receipts were the highest for a single day since the road was opened in August, 1956.

**Wise driver retires self**

Henry P. Van Dyke, who celebrated his 85th birthday on April 21, turned in his driver's license before his birthday. This wise gentleman voluntarily relinquished his driving privileges after an enviable 40-year driving record. Mr. Van Dyke had never been involved in a traffic accident and had never been stopped for any traffic violation.

**Advisory group for MSU Center**

At the invitation of Michigan State University's president, John A. Hannah, a citizens' committee has been activated to serve as an advisory group for the Highway Traffic Safety Center. The function of this group will be to periodically review Center programs, suggest areas of emphasis, and recommend further activities.

## *New Jersey's*

# NEW APPROACH TO DRIVER IMPROVEMENT

*Governor Robert B. Meyner made this statement at the opening of the New Jersey meeting at the Regional Conference of the President's Committee for Traffic Safety in Atlantic City, March 11, 1958, to introduce a "Three-Pronged Approach to Traffic Accident Prevention" the state will embark on in 1958.*

NEW JERSEY has a justifiable reputation as a pioneer in the traffic safety field. But we must not rest on reputation. People are still being killed and maimed on our streets and highways and we must keep right on working.

An excellent example of this, I think, is the program on which we are now embarking in the field of driver licensing. By July we will have in operation three modern driver license examination facilities. These, incidentally, are the first that New Jersey has had in its more than fifty years of licensing drivers and automobiles.

We have been frequently asked: "Since you inspect automobiles, why don't you inspect drivers?" Well, in the first place, we have been "inspecting" some drivers for the last five years in our Accident Prevention Clinics. We now intend to use that experience to provide a better initial driver license examination. We hope, in this way, to create a program for the re-education and rehabilitation of drivers who have become problems either for lack of driving skills or because of improper driving attitudes.

Our methods are these: we will require completion of the present written and physical tests before the issuance of a driver's permit. We will then schedule a road test by appointment to allow adequate time for each applicant. Eventually the written and physical testing will be done in our Accident Prevention Clinics.

Simultaneously, we are going to expand our program of requiring repeat offenders and the people who cause

GOVERNOR MEYNER

accidents to be examined in the clinics. There we administer tests to determine both the skills of the driver and, as nearly as possible with the aid of trained, scientific personnel, their driving attitudes. Our experience indicates that in most cases such an examination and the instruction given by our clinic personnel will be sufficient corrective action. But for that small group of drivers who require further assistance —and I emphasize here that we are far more interested in making better drivers than we are in penalizing offenders—we will set up an experimental rehabilitation course for problem drivers.

We hope to obtain from this program sufficient experience in techniques, personnel and facilities to be able to recommend, in the not too distant future, expansion of this program all over the state. We all recognize that the driver is the key to the traffic safety problem. New Jersey proposes to do something in this field. We hope that our experiments will prove successful, not only for New Jersey, but also for the rest of the country for which our program might serve as a model.

## A THREE-PRONGED APPROACH TO ACCIDENT PREVENTION IN THE STATE OF NEW JERSEY

### I. Pre-Licensing Education and Re-Education

The first and most important feature of this program calls for *the prevention of inadequate driving behaviors before maladaptive habits and improper attitudes have been learned.* This requires:

**A. Driver education** in the schools (already in operation in some high schools but needing great expansion) and coordination with the pre-licensing plan to be discussed below.

**B. A Pre-Licensing Examination Center** somewhat resembling the present Accident Prevention Clinic which will have as its function the examination and advisement of applicants for driving licenses before the administration of on-the-road tests and before the granting of licenses.

Such use of "pre-Licensing Clinical" facilities, although the processing time will be less than an hour, will tend to develop an awareness in the future driver of the helpful and positive side of law enforcement; show the future driver that inspectors and other lawmen stand ready to help; point out weaknesses (or skills possessed by the future driver but not possessed by others)—and suggest appropriate compensations; make it possible through the longitutional research (follow-up over the driving life-time), to pick out potential troublemakers in advance of licensing, and make it possible to rehabilitate those individuals most dangerous potentially, before they have ever been licensed.

**C. Re-Education** (Intensive Attitudinal Training) should be given to that small group of irresponsible, un-

dependable, emotionally unstable individuals who are likely to have high accident and violation records (as determined from the analysis of the psychological examinations given in the "pre-licensing clinics").

Several forms of Re-education (discussed in greater detail in part II) should be concurrently pilot tested in order to determine the more useful methods (which can then be used the second year).

## II. Rehabilitation of Offending Drivers

One phase of the program calls only for an expansion of the present Accident Prevention Clinics in numbers and activities. A greater number of clinics is needed to permit processing all violation repeaters as well as accident repeaters. The diagnostic work of the clinics needs expansion to include the measurement of additional psychophysical abilities to those presently measured.

The second aspect of this program is related to the present Accident Prevention Clinics, but it goes far beyond their philosophy in that it provides *treatment for those persons guilty of inadequate driving behavior which has manifested itself in a large number of accidents and/or violations* (a chronic offender group who would otherwise be going through the clinic a second time.

**A. Driver Education.** A room in each clinic should be set aside for actual training and practice in compensation habits, skill techniques, new driving strategies and tactics. The driver will be given this training and practice through a complex reaction-time apparatus (a driving simulator) which approximates actual driving situations (both normal and emergency).

Only those persons whose attitudes are healthy but whose skills are inadequate (and not easily corrected, as for example, with eye glasses), would be given the training. These individuals might be given perception and reaction habit training, training in *danger recognition* through the use of tachistoscopes, and *escape* from danger through training in tactics or strategies.

**B. Rehabilitation.** It is already becoming apparent that a certain percentage of drivers in New Jersey are chronic offenders who under the present clinic organization will be coming through the clinic a second or third time. No percentage figures are yet available, but the group is potentially large enough to be important, not only for their traffic and accident offenses, but possibly for other illegal activities as well.

These individuals are likely to be those who in other research tend to resent all forms of authority and restriction and are hostile toward those who exercise authority. They are often over confident about their driving skills and are exhibitionists, irresponsible, undependable, poor sports, and inadequately adjusted, both personally and socially.

These individuals have often already become, or will become, liabilities to the state, misdemeanor-wise and crime-wise.

It is suggested that there are two worthwhile approaches that can be used to rehabilitate some of these individuals. One might be called a "symptomatic" approach and the other a "non-symptomatic" approach.

1. *Symptomatic.* Two methods are advanced under this label.

(a) Leader-centered orientation meetings for less serious cases. Drivers meet with a safety expert (group leader) in groups of 10-20 for two hours a week over a period of 10-20 weeks. Carefully selected and trained inspectors from the clinic might assume this position.

(b) Group-centered intensive attitudinal training sessions for more serious cases. Drivers meet with a highly skilled professional in groups of 6-12 for one or two hours, once or twice a week for 15 to 20 sessions, and discuss driving and allied subjects. The approach would depend somewhat upon the orientation of the specialist and the make-up of the group, but in general it could be identified as group counseling.

2. *Non-Symptomatic.* Two methods are suggested within this category.

(a) Group-centered counseling meetings. The arrangement would be quite similar to "1-b" above with this difference—members of the group will discuss their *personal problems* with reference to home, health, sex, family, interpersonal relations and work (for example), rather than with reference to their driving (as in "1-b" above). A greater variety of techniques will be used over a period of seven to nine months, once a week, by a more highly trained specialist than is used in "1-b" above, with the emphasis on greater depth and probing.

(b) Attitudinal-training film classes. Drivers in groups of 25-35 meet together for two hours twice a month for six months and see and discuss mental hygiene films (which films have been selected to correspond to the individuals' own lives.) This approach requires a careful pre-selection of the drivers and the films.

## III. State Mass-Communication Campaign

Since gigantic publicity campaigns have in the past accomplished little more than a token improvement in the grim results of our nation's "misguided missiles," it appears that a new approach is needed which goes beyond the inventing of slogans and locates the communication appeals that will work with the public. Not only does the success of points I and II above require public acceptance, but the potentially beneficial results of a properly directed statewise mass-communication campaign are pleasant to contemplate. Radios, newspapers, television stations and movies all using short messages to the public that have been found to appeal to and work with drivers in making them more safety conscious and receptive to necessary motor vehicle laws, could effect a revolution in safety work.

The "invisible sell" of public relations, the success of commercial advertising, and the potential power of mass-communication techniques properly utilized, could, when combined, have a powerful impact on public safety-mindedness. It appears that worthwhile appeals have yet to be discovered and have yet to be applied to mass media.

We must effect a change in public attitudes so the public does demand the things which will make safety a reality.

**COMING . . . New Jersey's driver clinics are unique among state driver improvement programs. Read how New Jersey is pioneering in this promising field in a coming issue of TRAFFIC SAFETY.**

# AUTO SAFETY FEATURES BILL IN CONGRESS

LEGISLATION to require the automobile manufacturers to build additional safety features into cars has been introduced in the House of Representatives by Congressman Kenneth A. Roberts (D., Ala.).

Congressman Roberts stated that he feels it is imperative that the American public have a safer car. The congressman said that there are many causes of accidents, but survivability is influenced by the design of the automobile.

The chairman of the special house subcommittee on traffic safety stated: "Testimony presented to the subcommittee indicates that scientists and engineers know which structural parts of the automobile are causing the greatest amount of injury to persons in accidents. Action must be taken to remove these unnecessary hazards.

"Experiments have demonstrated that a major percentage of injuries could have been prevented by the proper packaging of the passenger. This is particularly true in the case of the interior portions of the car most likely to come into contact with the head, neck and chest of the passenger. There is especially a need for greater use of padding in the interior of the car in order to help reduce head injuries for all persons. Padding should not be a costly optional item."

As other areas for immediate improvement, the congressman pointed out the need for improved safety construction with respect to seats, cushions, knobs, steering wheels, and overhead structure of greater strength so as not to crush the passenger compartment in case of rollover.

He complimented the auto industry for the action it has taken to improve door locks to prevent ejection of occupants, whose exposure to injury and death was thereby increased by five times.

Congressman Roberts declared that his action in introducing such legislation is a result of the work and study which he has done in this field as chairman of the special subcommittee.

He pointed out that while the traffic fatality trend in 1957 was favorable (1,100 fewer persons died on the highways than in 1956), nevertheless, the more than 38,000 persons killed constitute a shocking national health problem.

Congressman Roberts said: "In my opinion, the national accident picture demands that action be taken to reduce crash injury, and I believe that the bill I have introduced today is a step in the right direction.

"I am well aware that design changes just for safety have been resisted because of the costs involved for them. When you view the national health hazard the automobile presents, however, this resistance cannot be tolerated. The Federal Government has acted before in matters of such universal concern to the nation's health. It must do so now."

## TEXT OF BILL ON AUTOMOBILE SAFETY DEVICES

### H. R. 10832 (February 19, 1958)

**A BILL — To require certain safety devices on automobiles shipped by automobile manufacturers in interstate commerce.**

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,* That no automobile manufacturer shall introduce or deliver for introduction into interstate commerce for shipment to an automobile dealer any automobile manufactured on or after the effective date of this section unless such automobile is equipped with such reasonable safety devices as the Secretary of Commerce shall require which conform with the standards to be prescribed by him in accordance with section 3 of this Act.

SEC. 2. Whoever violates the first section of this Act shall be guilty of a misdemeanor and shall, upon conviction thereof, be subject to imprisonment for not more than one year or a fine of not more than $1,000, or both.

SEC. 3. The Secretary of Commerce shall prescribe and publish in the Federal Register commercial standards for such safety devices as he may require under authority of the first section of this Act. The standards first established under this section shall be prescribed and published not later than one year from the date of enactment of this Act.

SEC. 4. As used in this Act—

(1) The term "interstate commerce" includes commerce between one State, Territory, possession, the District of Columbia, or the Commonwealth of Puerto Rico and another State, Territory, possession, the District of Columbia, or the Commonwealth of Puerto Rico.

(2) The term "automobile" means any motor vehicle, self-propelled or drawn by mechanical power, designed for use on the highways principally for the transportation of passengers except (A) any vehicle designed or used for military field training, combat, or tactical purposes, or used principally within the confines of a regularly established military post, camp, or depot, and (B) any vehicle regularly used in the performance of law enforcement duties.

(3) The term "automobile manufacturer" shall mean any person, partnership, corporation, association, or other form of business enterprise engaged in the manufacturing or assembling of passenger cars, trucks, or station wagons, including any person, partnership, or corporation which acts for and is under the control of such manufacturer or assembler in connection with the distribution of said automotive vehicles.

(4) The term "automobile dealer" shall mean any person, partnership, corporation, association, or other form of business enterprise resident in the United States or in any Territory thereof in the District of Columbia operating under the terms of a franchise and engaged in the sale or distribution of passenger cars, trucks, or station wagons.

SEC. 5 This Act shall take effect on the date of its enactment except that the first section of this Act shall take effect one year and ninety days after the date of publication of commercial standards first established under section 3 of this Act. If such standards as so first established are thereafter changed, such standards, as so changed, shall take effect one year and ninety days after the date of publication of such changed standards.

# AUTO WARNING DEVICE COULD CUT ACCIDENT TOLL

**by Richard B. Schulz**

THE high accident rate upon the nation's highways is occasioned by a large number of factors, including poor judgment on the part of the driver and condition of restricted visibility caused by fog, rain, snow, or darkness. Obviously, driving safety under such conditions would be improved if the driver had some warning of the proximity of vehicles not within his immediate range of vision.

The development of an automobile proximity warning device, seemingly bizarre and science-fictionish, is not only practical, but also has direct bearing on another radical, but necessary instrument in quite another field: geophysical exploration.

The auto warning device presently contemplated would consist of a small radio transmitter and a receiver, each in a package the size of a cigar box. Projecting from each package would be a special ferrite antenna array. These assemblies would be mounted immediately behind the front grill work of the automobile with the ferrite cores projecting forward in a manner that would enhance the appearance of the grill.

Also connected to this device, but located in a prominent position on the dashboard, would be a large red light or a buzzer to warn the driver of the approach of another vehicle. A device could be arranged to actuate the indicator in case of failure in operation of either the transmitter or receiver. Thus, the device would "fail safe."

In quantity production, its cost should be somewhat less than that of a conventional automobile receiver.

The contemplated device would utilize the transmission of induction field energy in an estimated frequency range of 50 kc to 100 kc. Transmitted energy would emanate from the transmitter ferrite rod, would be reflected from the metallic surface of a car in its path, and be received to indicate such presence.

The receiver coil would be located on a side of the car opposite from the transmitting coil and would be provided with an adjustable coupling loop for cancellation of the directly transmitted signal to receive net energy only in the presence of a reflected signal. Recent advances in the art of utilizing ferrite cores lend great promise for the success of this device.

Transmitter and receiver circuitry for this frequency range should be relatively uncomplicated. The receiver output signal would actuate a signal which in turn would operate the warn-

Mr. Schulz, of Armour Research Foundation's electrical engineering research department, has been applying the induction field principle for some years.

ing indicator on the dash panel of the automobile.

Previous experience with induction field equipment utilized for short range communication indicates it is feasible to have such a setup operate effectively over a distance of 100 feet, or approximately six car lengths. While this distance is not great, it should prove a very decided help to a motorist in fog.

Since this type of warning would be particularly useful in foggy conditions along turnpikes, it may prove convenient for turnpike authorities to issue attachable units to entering vehicles and to have the motorists surrender them at the toll booth exit.

It may seem surprising at first to associate a warning device for automobiles with an instrument to assist geophysical exploration for ore deposits, rock strata, water tables, underwater salt domes, and other physical features of interest in geophysical, mining, and civil engineering applications. Yet, it is basically the same principle which could result in the development of both instruments.

The principle itself arises from a well-known form of communication which utilizes an induction field. This low radio frequency field contains energy which emanates from the source, generally some form of antenna, but soon returns to that source without permanently escaping in a manner that a normal radio signal is transmitted.

One property of the induction field is that the average power flow per unit area varies inversely as both the frequency and the fifth power of the distance. By the choice of appropriate power, radio frequency, and emanating circuit, it is possible to provide for use of this signal in communication over some well-defined range of distance.

Another property of induction field energy is that it can be reflected in much the same manner as a radiated radio signal. Both of the ideas discussed here utilize the reflection properties of such a signal but in a manner quite different from conventional radar equipment.

Most radar equipment utilizes the time separation between an initial and reflected pulse at the receiver as a measure of distance from the reflecting object. However, in the induction field case, the signal is not pulsed but is continuous and the initial energy is cancelled out in the receiving device. The reflected energy is then directly indicated.

Its magnitude, of course, will depend upon the conductivity and the extent of reflecting surface as well as the distance therefrom. Consequently, the instruments proposed will not measure distance directly but are intended to indicate the presence or lack of a conducting object.

## B.P.W. Clubs to Study Traffic Signs

A nationwide study of traffic signs, signals and markings and related accident information has been announced by the National Federation of Business and Professional Women's Clubs.

Miss Hazel Palmer, national B.P.W. president, made the announcement as she accepted the first installment of a $10,000 grant from President J. O. Mattson of the Automotive Safety Foundation, to finance the program.

The check was presented during special ceremonies at B.P.W. Headquarters, 2012 Massachusetts Avenue, N. W.

The study program will be conducted through the organization's 3,300 affiliated community clubs in the United States, Alaska, Hawaii and Guam. The 170,000 member B.P.W. for many years has included traffic safety in its national program.

The Automotive Safety Foundation is a non-profit organization dedicated to education and research for safe, efficient highway transportation. The Foundation carries on its activities through grants of funds and grants of technical staff services, upon request of states, municipalities, public officials, national organizations, and educational and research institutions. Its work is supported by more than 600 companies and associations representing automobile manufacturers, petroleum and asphalt companies, parts and accessories manufacturers, rubber tire manufacturers, advertising agencies and media, steel companies, automobile finance companies, the Portland Cement industry, major banks, automobile and tire dealers, insurance companies and school bus manufacturers.

Established in 1937, Foundation headquarters are at 200 Ring Building, Washington, D. C.

## Large Grant to Yale for Traffic Training and Research

The Automotive Safety Foundation has made a grant of $120,260 to Yale University's Bureau of Highway Traffic for the training of traffic engineers and for research on transportation.

The Yale Bureau is the only school in the country offering a full academic year of graduate study devoted entirely to traffic engineering. Students are graduate engineers selected largely from state and municipal highway departments and engineering consulting firms throughout the country. The Yale training qualifies students for top positions in traffic engineering and currently Bureau graduates are employed in 38 states and 65 per cent of the cities of more than 200,000 population. Demand for Bureau-trained men is greater now than at any time since its founding, according to Frederick W. Hurd, director of the Yale Bureau.

## Chamber of Commerce Sees Upswing in Transportation

A possible upswing in transportation activities by mid-1958 is foreseen by the Chamber of Commerce of the United States in its published report, *Transport Review and Outlook Year-end 1957*.

Reviewing transport activities for 1957, the Chamber found a leveling-off for the industry as a whole with total inter-city ton-miles estimated at 1,363 billion ton-miles, or slightly above the 1956 total of 1,360 billion ton-miles.

Railroads, with 630 billion ton-miles in 1957, showed a four per cent reduction as against 1956, while freight carried by domestic airlines, including the all-cargo lines, rose 23 per cent with 407 million ton-miles. Inland waterway carriers were up 12 per cent with 123 billion ton-miles. Oil pipe lines held their own at 230 billions.

Passenger miles in 1957 totalled 716 billion, a rise of 3 per cent over the previous year. Most of this increase was accounted for by private auto travel, although airlines reported a 14 per cent rise for domestic service with a total 25.4 billion passenger-miles for 1957.

**The finest equipment, skill, and technical knowledge went into the Winter Driving Hazards Committee's Clintonville tests. Data from tests—now being processed by Cornell Aeronautical Laboratory—are expected to disclose vital information that concerns both fleet operators and plain ordinary drivers.**

# DEEPFREEZE TEST LAB

WHEN members of the National Safety Council's Committee on Winter Driving Hazards vacated their "deepfreeze" test grounds at Pine Lake, near Clintonville, Wis., they hauled away thousands of dollars worth of vehicles, tires and electronic equipment, and thousands of feet of oscillograph records containing answers to skid and braking questions.

Fleet operators are eager to learn just what the "deepfreeze" laboratory turned up, because among the many items studied during the 18 days of testing is one of extreme importance to the trucking industry—the relative merits of the axle and vehicle concepts of protecting the braking systems of multi-unit commercial vehicles on glare ice.

The answers that testers get from the voluminous test data may mean money out of truckers' pockets—as much as a quarter of a billion dollars.

Results of the braking system tests may influence the Interstate Commerce Commission to ask for costly equipment modification of trucks.

In 1955 the ICC proposed regulations that would require installation of devices on commercial vehicles to insure brake operation on remaining axles when one failed.

The proposal was vigorously opposed. Main objections: the complexity of the untested system and the cost. (Change-over cost to the 156,000 companies is estimated at upwards of $250 million.)

Taking heed of the protests, the ICC decided—for the time being—to take a more conservative course. Effective Jan. 1, 1957, it required operators under its control to use brake protection systems based not on the axle method, but on the less expensive vehicle concept.

The Pine Lake tests were the first in a series of field studies to determine which system is better.

Said Edward L. Smith, secretary of the Council's Committee on Winter Driving Hazards, when the tests were concluded:

"Indicative of the interest the trucking industry has in this matter was the visit of the executive committee of the Council's Commercial Vehicle Section, which is vitally interested in the stopping and the steering behavior and the jack-knifing tendencies of semi-trailers on glare ice.

"Not only can the test results affect the commercial vehicle industry financially, but they can also have a great bearing on the safety of motorists."

Official observers at the tests from Washington, D. C. for three interested agencies included: Don W. Morrison, mechanical engineer, Bureau of Motor Carriers, Interstate Commerce Commission; Lewis C. Kibbee, chief, equipment and operations section, American Trucking Associations, and F. W. Petring, Bureau of Public Roads.

While this year's tests were of great concern to the trucking industry, every motorist derives benefits from the findings of the Council's Committee on Winter Driving Hazards.

Though motorists drive more miles in summer than in winter, the total number of motor vehicle fatalities is highest in the fall and early winter. Mileage death rates usually reach a peak in December.

The committee's research has been directed to these questions:

1. What are the special hazards of winter driving?

2. What effect do climate and topography have on winter driving?

3. What remedies (equipment and driving practices, for example) should be recommended to motorists to help

**Before test run, test engineer calibrates instrumentation which will pick up trailer-tractor angle.**

**The oscilloscope, which provides a continuous time-history record of vehicle performance, is checked.**

them reduce the number of winter driving accidents?

4. Do drivers know what they should about winter driving hazards and their results?

5. What can states and cities do in maintenance of streets and highways to alleviate winter hazards caused by snow, ice and fog?

6. How valuable is an adequate system of winter road conditioning reporting?

Much of the equipment and many of the methods that make winter driving easier—and safer—today were first recommended by the Council's Committee on Winter Driving Hazards.

Today, for example, practically no vehicle comes without defrosters. In 1939, however, the committee felt it necessary to recommend the use of "heater-defroster combinations or special fans" to keep the outside of windshields free from snow, slush and ice, the inside free from frost and moisture.

It was also after the initial test that the committee commented on the "misplaced confidence" motorists have in the ability of tires to provide extra traction when air pressure is reduced to below normal. Today, most motorists know and accept the fact that lowering tire pressure does not provide extra traction, but, on the contrary, lowers resistance to side-skids.

In view of committee findings it is not surprising that educational institutions keep a close watch on the an-

**Engineers prepare trailer hitch. Proper functioning of truck-trailer connections is vitally important.**

**Technician installs test wheel which is used to record accurately speed and stopping distances.**

**Visitors learn how oscilloscope and accessories automatically record test data for later studies.**

**Test engineer explains operation of device which is used to pick up angle between units of test trucks.**

nual winter tests. This year they will be watching for the results of a pilot study conducted to see what information on winter driving can be used in driver education courses. Prof. J. Duke Elkow, Director of Safety Education, University of Wisconsin, took part in the pilot study tests.

Chairman of the Council's Committee on Winter Driving Hazards is Prof. A. H. Easton, director of the Motor Vehicle Research Laboratory at the University of Wisconsin.

F. William Petring, Bureau of Roads, U. S. Department of Commerce, served as project engineer for the truck-testing phase of the program.

George A. Stonex, head of engineering tests, General Motors Proving Grounds, Milford, Mich., served as testing sub-committee chairman.

Other members of the "deepfreeze" laboratory crew were: E. J. Emond, director of automotive safety, Armour & Company, Chicago; Earl Andrews, general engineer, Frank R. Schubert, test engineer, and Robert P. Obrin, tester, of Bendix-Westinghouse Automotive Air Brake Company, Elyria, Ohio; Al G. Fond, associate engineer, Cornell Aeronautical Laboratory, Buffalo, N. Y.; Walter B. Lashar, Jr., manager of technical sales, American Chair & Cable Co., York, Pa.; G. J. Fabian, principal engineer, and Art Pulley, tester, Cornell Aeronautical Laboratory, Buffalo, N. Y.; Bellman D. Jones, secretary, Safe Winter Driv-

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**Onlookers gather round for close up view of trailer hitch instrumentation and air brake connections.**

**Test wheel is subject of this discussion. The wheel is practically a trade-mark of automotive testing.**

**Visitors get look at instruments inside cab of test truck while technician explains how they are used.**

**Oscillograph processor in action—developing sensitized paper on which test data have been recorded.**

# TRAFFIC TRAINING COURSES

## April, May and June, 1958

April 2-4—Motor Fleet Maintenance —University of California, Richmond, California. Contact: Bob Glenn, Berkeley, California.

April 7-11—Motor Fleet Supervisor —Oregon State College, Portland, Oregon. Contact: Wm. Engesser, Corvallis, Ore.

April 7-25—Personnel Management for Police—Northwestern University Traffic Institute, Evanston, Ill.

April 14-18—Motor Fleet Supervisor —University of Washington, Seattle, Washington. Contact: Fred M. Rhodes, Jr.

April 21-25—Motor Fleet Supervisor —Northeastern University, Boston, Mass. Contact: Nelson Copp.

April 21-25—Motor Fleet Trainers of Commercial Drivers—Ontario Safety League, Toronto, Canada. Contact: F. H. Ellis

April 21-May 9—Traffic Law Enforcement — Administration and Techniques, Traffic Institute, Evanston, Ill.

April 22—Motor Fleet Maintenance —University of Kansas, Lawrence, Kansas. Contact: Marvin Criqui.

April 28-May 3—Motor Fleet Maintenance—Pennsylvania State University, University Park, Pa. Contact: Amos E. Neyhart.

April 30-May 1—Motor Fleet Conference on Advanced Techniques —Pennsylvania State University, University Park, Pa. Contact: Amos E. Neyhart.

May 1-2—Traffic Court Conference —University of Minnesota, University Extension Service, Minneapolis, Minn. Contact: Fred E. Berger, Dir. Center for Continuation Study.

May 5-23—Traffic Control—Devices and Methods—Northwestern University Traffic Institute, Evanston, Ill.

May 5-23—Accident Investigation—Administration and Techniques—Northwestern University Traffic Institute, Evanston, Ill.

May 19—Motor Vehicle Traffic Control for the Air Force (to June 6) —Northwestern University Traffic Institute, Evanston, Ill.

May 20-22—Motor Fleet Trainers of Commercial Drivers—University of Kansas, Lawrence, Kansas. Contact: Marvin Criqui.

May 21—Motor Fleet Top-Management Conference—Purdue University, Lafayette, Ind. Contact: D. A. Weaver.

June 2-6—Traffic Court Conference —American Bar Association—Fordham University, Keating Hall, Fordham Road, New York 58, New York.

June 2-6—Motor Fleet Supervision —Northwestern University, Traffic Institute, Evanston, Ill.

June 5-6—Motor Fleet Top-Management Conference — Pennsylvania State University, University Park, Pa. Contact: Amos E. Neyhart.

June 10-12—Seminar for Chiefs of Police — Northwestern University Traffic Institute, Evanston, Ill.

June 16-27—Police Traffic Training Course (subject to be announced by special circulars), Northeastern University, Boston, Mass.

## Regional Conference Calendar

- **FOUR conferences will be held in 1958 to muster support for the priorities established at the Public Officials Conference. The first was held at Atlantic City, March 11 and 12.**
- **LEADERS in the Midwest will rally at Chicago, April 1 and 2. The Western Regional Conference at San Francisco, April 8 and 9, will drum up support for Action Program priorities among the eleven Western states.**
- **THE SOUTHERN Regional Conference is slated for Miami Beach, Fla., for May 29-30.**
- **Attendance at each of the four conferences is expected to approximate 1,000. Delegates will be furnished reports and needs will be pinpointed state by state.**
- **BUSINESS of the regional conferences will be to muster public support of and backing for recommendations.**

## Color Coding

# FOR TRAFFIC HOT SPOTS

TWO Army safety engineers have come up with a colorful idea that may have some of the answers for increasing safety on American highways.

Their plan calls for yellow and red sections of pavement in advance of intersections. The pavement colors are synchronized with caution and stop signs at the road edges.

A test installation is in use at the Army's Fort Hamilton, in Brooklyn, and others are being set up at West Point and on Governor's Island.

The idea is the brain child of two Army safety engineers—O. William Schulz, safety engineer of the U. S. Military Academy, West Point, N. Y., and Gerard C. Deane, safety director, U. S. Army Garrison, Fort Hamilton, Brooklyn, N. Y. The men have submitted their plan to the Bureau of Public Roads, and that agency is considering its use for the new national system of federal-aid highways—90 per cent of which are being financed with federal funds.

State highway officials are also intrigued with the possibilities of incorporating colorful alerters into roadways. The safety engineers first proposed using long stretches of colored surfaces to counter "highway hypnosis" —the eternal sameness of roadways which lull many drivers into a comatose condition, by offering drivers a contrast between endless stretches of drab concrete.

The broad concept was found too costly. Now the men are trying to alert drivers approaching an intersection. Experts hold that too often drivers overlook or disregard warning markers or roadside signs.

As Mr. Deane explained, rational use of color has been a widespread safety concept in industry for many years, and he sees no reason why color cannot accomplish the same results on streets and highways.

As Mr. Schulz pointed out, the medical profession has long recognized the therapeutic value of color in hospital rooms, operating theaters and corridors. Color has been used by industrial safety engineers to define aisles or traffic lanes, machine locations, to mark utility pipes, or to indicate the locations of fire stations, emergency equipment, etc. He also was impressed with the reports of sales of items in the automotive and home field where color preference was indicated by customer purchase, indicating to these two safety engineers that color had remarkable significance from a customer point of view.

"If they'll buy it at the sales counter, maybe they will buy it on the highway," they said. And the two members of the American Society of Safety Engineers thought enough of the idea to sell it to their first "customer"—Col. John S. Sabine, (past) commanding officer (now overseas), U. S. Army Garrison, Fort Hamilton, Brooklyn, New York.

The experience in use at this Army post convinced Col. Langdon S. Jackson, Jr., commanding officer at Fort Hamilton (who succeeded Col. Sabine), that the idea was worth continuing, so the program has been expanded at Fort Hamilton and extended to use at West Point and on Governors Island.

Traffic and highway engineers have been using color to indicate the accelerating and decelerating lanes of expressways and turnpikes for the past decade, so it is not unlikely that this concept of color by two Army safety engineers will go unnoticed by those charged with the safety of drivers on the nation's expressways.

As Messers. Deane and Schulz point out, the application of color to our streets and highways can be achieved in many ways—spray painting with traffic paint of street and highway surfaces, color pigments in bituminous or concrete mixes. Experience, so far, has indicated that so-called traffic light colors—red and yellow—be restricted for use near intersections, or the entrances or exits to roadways in association with standard signs and devices now in use.

The test installation at Fort Hamilton uses a 12-foot section of yellow pavement and a 24-foot strip of red pavement to bring drivers to a safe and comfortable stop.

But both the Army's safety engineers feel that experiments with the idea in the field, using variations in color—even with gradations of black and white (a simple, inexpensive additive), can produce significant results in accident prevention by alerting drivers to the warning signs and signals and the hazards of the roadway.

### A PRAYER FOR MOTORISTS

O Heavenly Father, Who knoweth well our limitations, send forth Thy Spirit to stress the tremendous responsibility of the steering wheel in our hands. Remind us, before starting the motor, too often an engine of sudden death, to make the Sign of the Cross so that the trip may begin with Thy blessing and by it be happily ended.

Sharpen our wits to keep our eyes on the road, ever mindful that the safety of human lives—so very precious in Thy sight—depends on our alertness and sobriety. Enlighten us to drive with patience, vigilance and consideration for others in cars and on foot.

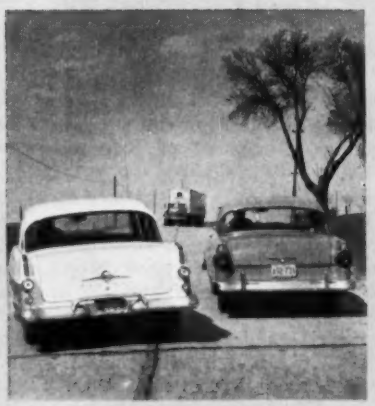
Oh dearest Virgin Mother ask St. Christopher, patron of travel, to see us safely on our way through Thy Divine Son, our Lord Jesus Christ. Amen.

**(Charles F. Buddy, Bishop of San Diego July 23, 1956)**

SPEED CONTROL

# THE RURAL PROBLEM

**Despite the hike in travel and the increase in vehicle registration last year, 1,100 fewer deaths were recorded. The big drop came in the rural areas, where increased patrol activity by police slowed drivers. But speeds are high across the nation, so speed control is still a big problem in accident prevention.**



**by Fred J. Bly**

SPEED is a factor in three-quarters of the fatalities occurring in rural areas, and a problem to all concerned with traffic law enforcement outside the metropolitan city limits all over America.

In 1956, three of every four traffic deaths occurred in rural areas, and four of every ten of these were typed as non-collision. The non-collision accident means that drivers ran off the roadway at a curve or on the straightaway, or overturned on the roadway. In eight of every ten rural fatal traffic accidents, the car ran off the roadway.

While fatal accidents rose 20 per cent during the period 1946 to 1956, deaths from non-collision traffic accidents increased 65 per cent. These figures show the clear and prominent presence of speed too fast for conditions and speed in excess of posted limits.

An October 1956 survey, conducted by the California Division of Highways, revealed an increase in the average speed of all vehicles of 4.3 miles per hour when compared to a similar survey made in 1951. A comparison of critical speeds (speeds at or below which 85 per cent of the traffic is moving) reflected an increase of 5.2 mph.

On six rural freeways in California the average speeds of 1955 and 1956 model passenger cars were compared to similar speeds of 1954 and older model cars. The survey showed that 22.7 per cent of the 1955 and 1956 models were traveling 70 mph as compared to 12.3 per cent of the older models. Similar differences were reported at the various speeds above 70 mph.

These surveys, together with the already reported increases in single vehicle fatal accidents of the "ran off roadway" type, confirm many law enforcement administrators' apprehensions regarding increased horsepower in automobiles.

When properly employed, increased horsepower *can* be a safety factor; however, the increasing emphasis placed on higher horsepower is a concern to enforcement officials. In the mind of most motorists, power and speed are synonymous. There seems to be some psychological quirk in the makeup of man that requires him to test and re-test the maximum power output of the mechanical machine he controls.

On June 6, 1957, the board of directors of the Automobile Manufacturer's Association unanimously recommended to the member companies that they take no part in automobile racing or other competitive events involving tests of speed and that they refrain from suggesting speed in passenger car advertising and publicity.

The manufacturers' adherence to this policy is welcomed by enforcement officials who must deal with the speed problem daily.

We are today building straight, level highways which make speeds of 100 mph a distinct possibility. Many drivers, unable to handle vehicles at such speeds, seem unable to turn their backs to the challenge.

In considering the human equation the slightest deviation from ideal driving conditions can spell disaster when the vehicle is traveling at high speed.

I recently had the opportunity to peruse a "Mileage and Expense Record" distributed to patrons of the Conoco Oil company. At the bottom

The author is assistant commissioner of the California Highway Patrol, Sacramento, Calif.

of the printed form they had listed the general highway speed limit requirements of the 48 states. Among them were 14 different regulatory speed listings ranging from 40 mph to "reasonable and proper" and "reasonable and prudent."

This did not consider for a moment the multitude of special requirements each state has. What is "reasonable and prudent" or "reasonable and proper"? Most here have read several court cases dealing with this definition. In the main the courts have held that "reasonable and prudent" is that action which a reasonable man would have taken under a like set of circumstances. Webster defines *reasonable* as rational or not beyond the bounds of reason.

The word *proper* has many meanings. The one most applicable is "befitting one's nature, qualities—right, fit." *Prudent* means capable of directing or conducting one's self wisely and judiciously. This, then, is the maze provided the motorist and the officer as a guide to driver behavior and enforcement action. It is no wonder the nation's drivers are confused and irritated when arrested for violating statutes so difficult to interpret.

The present controversy over which type of speed limit is the better appears to have been engendered by popular misconception as to the intent and meaning of prima facie type laws. This misconception is not limited to the average motorist. All concerned with law enforcement, the police, the judiciary and attorneys must be included.

The adjective "prima facie" means "adequate to establish facts or raise a presumption of facts." This fact or presumption of fact as it pertains to the prima facie type speed law is refutable in court if a defendant establishes by competent evidence that the speed charged did not constitute a violation of the basic speed law. The prima facie type law does not afford to the enforcement officer the prerogative of the judiciary in determining competency of evidence.

The obligation of law enforcement is the same under a prima facie type law or a fixed limit type law. The difference between these laws is the latitude permitted in the court in the interpretation of the evidence presented. The misconceptions previously referred to have resulted in the application of unreasonable tolerances. Confusion to the motorist and general disregard to speed signing and zoning are weaknesses inherent to any prima facie type law.

A fixed limit speed law would appear to overcome the major problems of a prima facie type limit. Tolerance is required in speed determination as in many other facets of law enforcement. This required tolerance, however, is for the sole purpose of overcoming human and mechanical error and not to provide for individual en-

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## SPEED CONTROL: THE ENFORCEMENT SIDE

**▸ The speed enforcement program must promote the belief among road users that speed laws and enforcement policies are reasonable, that the police are always present, that detected violations will result in police action, and that punishment will be certain and adequate.**

**▸ The selective enforcement program should provide for the proper balance between speed enforcement and speed as a cause of accidents. A substantial number of on-view enforcement actions (arrests at the time of violation) should be taken for speeding which is improper or unsafe, even though not in excess of posted limits. Speed violations in accidents need to be pinpointed both for effective identification of accident causes and to enable specific corrective enforcement where speed violations can be proved.**

**▸ Written warnings, if adequately followed up, are useful in limited cases, but should not be used in place of arrests or citations for violations of basic speed laws or rules of the road. Oral instruction is useful to assist drivers whose minor misbehavior is clearly due to inexperience or lack of information, but this should not be considered as a "warning."**

**▸ Tolerances for violations of fixed speed limits should compensate for reasonable human and mechanical errors in determining speed. In pacing with a patrol vehicle, or in using approved fixed-position speed measurement techniques, a margin of five mph is reasonable. Additional "allowance" is an extension or distortion of the law.**

**▸ The term "speed trap" for legitimate enforcement activity should not be used. The use of fixed-position speed measuring devices, because they increase enforcement potential five to tenfold, requires that extreme care be exercised as to type of device used, adequate public information in advance of enforcement use, and proper techniques to assure accuracy. Primarily they should be used to supplement other enforcement methods. Their use should not lessen speed enforcement efforts by moving patrols, nor give undue emphasis to speed violations in the total enforcement activity.**

SPEED CONTROL

# THE CITY PROBLEM

**By and large, America's cities did not do so well as the nation as a whole last year. The urban drop was 2 per cent compared with a 3 per cent reduction in fatals in rural areas. In Lansing, half the collisions are due to speed violations—one reason why Lansing and other cities must rate speed control top priority.**

**by Capt. George Warner**

THERE are two areas to explore when trying to attack the problem of speed law enforcement in cities.

- Is speed law enforcement needed?
- How can we get it?

The answer to the first question—is speed law enforcement necessary—can be answered "yes" by all communities and all police agencies. Is speed a factor in causing collisions? If it is, then speed law enforcement is needed.

According to the 1957 edition of *Accident Facts*, about 3 out of 10 drivers in fatal accidents were violating a speed law, according to reports from 18 states. Specifically, violations were reported for 32 per cent of the drivers (22 per cent were exceeding stated speed limits, and 10 per cent were exceeding safe speeds although travelling at less than the stated speed limits or on roads where no stated limits existed).

These speed violations were factors in 38 per cent of the fatal accidents, even though only 32 per cent of the drivers were violating. In some two-vehicle accidents only one driver was speeding, so speed was reported for a higher percentage of accidents than of drivers.

City accident summaries showed only 21 per cent of the drivers in fatal accidents violating speed laws, compared with rural summaries which showed 38 per cent. However, since accident summaries are based partly on reports of drivers, who often believe low speeds are safe regardless of conditions, differences in urban and rural per cents must be interpreted with caution.

Information on the factors involving speed which are the cause of accidents at various locations is needed and necessary before any program of speed law enforcement should be instituted. It may vary from 20 per cent to 50 per cent in different locations. To do a good job we must know what is needed before we start. In accident prevention work the causative factors must be known.

In Lansing we know that between 45 per cent and 50 per cent of all our collisions each year are caused by speed violations. This tells us that in Lansing's accident prevention activities, speed law enforcement must receive top priority.

What the causative factor of speed is in your overall accident problem should be determined by accident studies and summaries. Is speed law enforcement necessary in your accident prevention efforts? Where, when and how much is needed can be arrived at only by studying the record.

The answer to the second question—how to get speed law enforcement to match the causative factor of speed in accidents—is the only problem left to solve. However, it is the most perplexing and difficult of all traffic law enforcement problems.

The problem of traffic management and control in its broad aspects has become more complex and acute each year. In the past ten years the problem has doubled and redoubled. It continues to get progressively worse each year. Registrations continue to increase about 10 per cent each succeeding year.

Few, if any, police departments have been able to keep up with the job. A few do not realize there is a job to be done. What can we as police officers do in the face of this dilemma?

We are never going to get the manpower we need until we do the best job possible with what we have. Collectively we must go to work.

The author is Captain, Commanding the Traffic Division of the Lansing Police Department, Lansing, Mich.

Before any enforcement is applied (if you have not been doing your best) or the quantity increased, the public must be informed as to your plans and the reasons for the action. An informed public can be most helpful in any police function. Especially is this true in matters of traffic law enforcement. We, as police, forget at times to keep the public abreast of the problems and why we, as its police agency, are involved in some of our activities.

Public information should be supplied the citizenry regularly and in some communities the police do a good job. I believe a better job can be done by a local safety council or similar organization. A membership of interested, safety-conscious citizens in such an organization can be far more effective in conditioning the public to accept and demand traffic law enforcement by the police agency. The local safety council supports the official agencies charged with the responsibility of doing the job. Matters of policy must rest with the official agency and the local safety organization must not attempt to dictate it.

If the community is properly conditioned, the citizens will accept and demand an enforcement action by their police agency. The police agency must do a good job. The biggest problem in traffic law enforcement is the activation of all the available police personnel in your community.

This activation of the police and the desire to do a good job in accident prevention must, of course, stem from the administration head and permeate down through the ranks to the men in the field. The men must know that it is an expected police function. The very nature, the lack of glamour in this police activity, makes it a tough administrative job.

However, if the executive officer recognizes that the principal function of a police agency is to protect life and property, if he is informed of the problems, and shown that accidents are taking a toll far greater than any other reasonable police responsibility, he can be impressed and become enthusiastic.

It is true that all strata of society are and must be treated by the police for these accidental violations of the law. If an impartial position is taken by the police, little danger of reprisal can be anticipated. What the public believes is important in a good accident prevention program.

A high contact rate by individual officers with motorists is necessary. Many contacts may be for verbal warnings but the passing motorists who witness the contact readily believe an arrest is being made. The real benefit of traffic law enforcement is in its deterrent effects and not on the fines collected.

In Lansing, as a matter of policy, we encourage and investigate all citizen's complaints as to speeding violations. A motorcycle is immediately dispatched to the location complained of and the complainant at least sees the police response. This takes little time and it helps to instill in the mind of our citizens that their police are interested and on the job.

Police administrators should not sit back and be pushed into this business of traffic law enforcement. The police have the tools to reduce this carnage of collisions. Constant enforcement pressure is necessary to assure continued public acceptance of such a program. We have found that short drives on specific violations are not acceptable by the community, nor do they reduce the accident problem. Constant day-by-day traffic law enforcement by all uniformed police officers can, and will, reduce accidents and the public will approve.

Engineering and education are both effective in accident prevention, but both or either will fail without the assured knowledge by the public of police enforcement action. Enforcement does more to keep the average citizen out of trouble with his car than any other single thing. Let's have more of it by enthused police officers.

Here are five important steps in developing a sound speed-law enforcement program:

1. Find out what percentage of your total enforcement efforts must be aimed at speed law violations.
2. Keep the public informed as to your efforts for their personal good (not by the police, preferably by a safety organization).
3. Encourage citizens to report violations. Respond to complaints. Have high contact rate with motorists.
4. Don't wait to be pushed into this vital police business. Discard the thinking that police operate on a complaint basis—an opinion not modern enough to cope with modern problems.
5. In training schools and at roll-call keep men on job every day.

**LAWS OF PHYSICS CAN'T BE REPEALED**

**Traffic must move quickly, efficiently, expeditiously but speed adds to hazards of dense city traffic.**

# WHAT'S NEW

# CONGRESS BILLS—NSC ROCKETRY POLICY

THE Federal Highway Administrator released figures from a still unpublished study of accident causes, which indicate that on two highways of comparable average daily traffic (28,000 plus) the highway with planned, controlled access had an average accident cost of $19,000 per mile per year, as compared to $82,000 on the comparable highway without controlled access.

The same official announced completion of grant negotiations with Northwestern University for a program of scientific research into the causes of accidents. A team approach will be applied to a series of case studies, investigating selected accidents on the immediate scene, and then following up with detailed explorations of all possible information as to the true causes of the accident.

Other phases of the study will include (1) speed, horsepower and driver attitude; (2) social and economic dimensions of highway accidents; and (3) an accident cost study.

The Air Force decided to continue allocation of funds for the automotive crash research program. This change of policy was made "largely" on the basis of a letter from Congressman Roberts that such "basic research is an invaluable contribution to future safety design of the automobile."

At the Interstate Commerce Commission's request, Senator Magnuson introduced S. 3104 to amend the Interstate Commerce Act in such a fashion as to assure the effective applicability of motor carrier safety regulation upon the same two thirds of the private carriers and the three quarters of the commodity carriers not now effectively covered by such safety requirements. The Interstate Commerce Commission justified the bill as promoting better compliance and as likely to reduce accidents.

S. 3218 (Kuchel) is a new bill providing for bill-board control along the Interstate Highways. In part, its sponsor justified it on safety grounds "because all too often vital route information or cautionary signs are obscured by . . . the mazes and walls of posters and billboards."

H. J. Res. 470 (Byrne) would urge the states that have not yet done so to adopt the Uniform Vehicle Code.

## NSC POLICY ON AMATEUR ROCKET EXPERIMENTATION

### Policy

The National Safety Council opposes amateur experimentation with rockets and rocket fuels.

### Basis

A number of injuries and fatalities have resulted from amateur experimentation with fuels and rockets—in some cases involving unqualified supervisors of such projects.

Few chemists or physicists are qualified to carry on such experiments or to supervise them, since the science of rocketry requires very specialized knowledge and training.

Firing of rockets, except on approved test ranges, endangers not only the participants, but the general public as well.

These devices and fuels are extremely dangerous, even in the hands of highly-qualified scientists, working under the strictest of controlled conditions. Serious injuries and fatalities have occurred even among these groups in the course of their assigned duties.

### Implementation

Most of the States, and many municipalities, have enacted legislation which outlaws the manufacture, sale, and firing of fireworks by unlicensed persons. Since rockets and rocket fuels, in their preparation and in the quantity required, are infinitely more lethal, the National Safety Council calls upon parents, teachers, and responsible public officials to ban their use by amateurs, *immediately*.

The determination of the science curriculum is a task to be entrusted to the science teachers of the nation and the recommendations of their professional organizations. The Council urges that the real hazards of amateur rocketry be weighed by the responsible school officials in designing science curricula.

In adopting its policy, the National Safety Council does not imply that it is opposed to the encouragement of the study of the chemistry, physics, and mathematics of rocketry by the youth of the nation. On the contrary, the Council would strongly urge that opportunity to study these fields, including the safety principles, be accelerated and strengthened so that more and more students will be ready to enter into studies in the higher realms of these sciences, thus preparing themselves for *true* scientific experimentation in the problems of space. The Council believes that in this way, our youth can make its most significant contribution to its Country.

(Developed by the Chemical Section and approved by the Industrial Conference and the School and College Conference.)

# Test Talk

**Teen survey condemns DWI**

A nationwide survey among high school teenagers conducted by the Purdue Opinion Panel, under the direction of Dr. H. H. Remmers, indicates that teens are strongest in their condemnation of their fellows who drive after they have been drinking. Of the high school students surveyed, 64 per cent feel that any teenager who is caught behind the wheel after drinking should have his license revoked. Half of today's teens (52 per cent) believe that a teenager should also lose his license if he is stopped by police for reckless driving.

**Intermediate offense rejected**

A proposal that model legislation on driving while under the influence be revised to include an "intermediate offense" was rejected by the Council's Committee on Test for Intoxication at its annual meeting. The suggested law revision would have made it illegal to drive with a blood alcohol level of 0.05 per cent or higher. The Committee felt more could be accomplished by the proper application of present laws. It is now possible, and is the practice of some police agencies, to prosecute for DWI when the blood alcohol level is below 0.15 per cent and observable symptoms indicate the driver is under the influence of alcohol.

**Pick right time and place to imbibe**

In its December, 1957 report of traffic deaths, the Traffic Safety Division of the Arizona Highway Department has this advice: If you do drink, choose the time and place so that you will not have to drive after you drink. Drinking may be your own private business, but a driver who has been drinking is a public menace—a drinker may learn to control himself and disguise the fact he has been drinking. He may be able to fool some people. He is not likely to fool his automobile, a machine which is often more than a match for some people when they are completely sober.

**Must wait 15 minutes before test**

A reading from a breath sample which is higher than the corresponding blood reading can be obtained by rinsing the mouth out with some alcoholic beverage just before the taking of a breath sample for an intoxication test.

This effect disappears within ten minutes after having the alcoholic beverage in the mouth; It must be a rule that no breath sample be taken for analysis until fifteen minutes or more after the mouth is clear.

**All persons impaired at 0.15**

The presumptive blood alcohol standards used for determining intoxication were not arrived at by pulling figures out of a hat, but were established by a comparatively large group of medical scientists only after years of research and thousands of experiments on human beings. When these standards were considered for recommended legislation, many of the scientists recommended 0.10 per cent as the presumptive level. In an effort to be absolutely fair, they polled themselves for the percentage at which no one remained unimpaired and this turned out to be 0.15 per cent.

# Brass Button News

**One man cars most effective**

A recent study by the St. Louis Governmental Research Institute indicated that when properly trained, police can give better protection patrolling alone than in pairs. The study was conducted in 15 cities of more than 400,000 population and it was concluded that a lone patrolman was in no greater danger than two policeman driving together—in fact, he might be safer. Special training was recommended for the lone officer in pursuing suspected law-breakers and in using the radio to summon help.

**Require cash deposit to drive**

Chief Arthur E. Louwers of Grosse Point Park, Michigan has recommended to all parents in the area that they require their teenage sons and daughters to save from their own earnings, and deposit $100 in the bank before being allowed to drive the family car. If the teenagers should become involved in an accident in which they are at fault, damages up to $100 would be deducted from this account. The use of the car would be denied until the balance again reached $100.

**Pursuit driving manual**

The U. S. Treasury Department, Internal Revenue Service has recently published a handbook for law-enforcement officers titled Pursuit Driving. This manual is designed to instruct federal, state, and local law enforcement officials in the techniques of accident prevention while engaged in the apprehension of violators or suspected violators in this age of crowded highways.

**Automatic shifts economical**

Police in Richmond, Virginia will use automatic transmissions, but other city employers will shift for themselves—and both will be saving the city money, the International City Managers Association says.

Careful study of more than 800,000 miles of travel by 32 city cars, half with automatic transmissions and half with standard, showed that the eight-cylinder police cars operated at 4.5 cents a mile with automatic shift, 5.9 cents a mile without. The Six-cylinder cars for non-police use cost 3.6 cents a mile to operate with automatic transmission, 2.6 cents without.

**N.Y. court upholds radar**

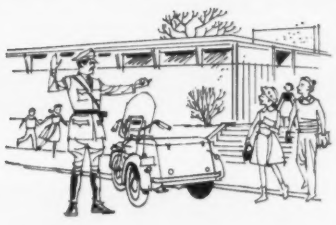
The New York Court of Appeals has upheld the use of radar speedmeters in traffic cases. It said the device generally is reliable to measure the speed of moving vehicles, and therefore, its nature, function and operation need not be shown by expert testimony in each case.

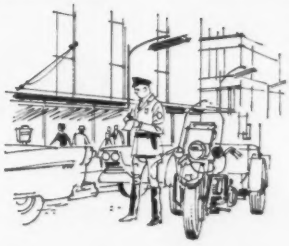
The Court concluded that the use of radar for speed detection now falls in the same category as reproduction by photographs, x-rays and electro-cardiograms that are freely accepted in the courts for their general reliability without the necessity of offering expert testimony as to the scientific principles underlying them. (People v. Magri—January 16, 1958)

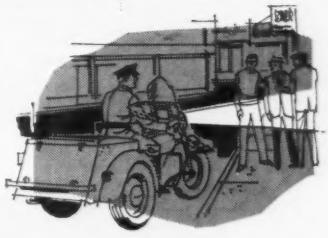
# Ready for anything!

# HARLEY-DAVIDSON Servi-Cars

## all-round versatility . . . all-round the clock







HERE'S the mobile work-horse of efficient police departments everywhere. Day and night, these maneuverable three-wheelers are hard at work in progressive communities, large and small — busy patrolling business and residential areas, marking cars, checking meters or traveling from intersection to intersection for spot traffic direction. To these varied duties, add the Servi-Car's street-level effectiveness as a crime-stopper* and you have the most versatile police vehicle on the prowl today.

And the new 1958 Servi-Car is the smoothest riding three-wheeler ever built. New Hydra-Glide front fork greatly reduces fatigue for officers spending long hours in the saddle.

Equally important, Servi-Cars do the job better for *less money*. Besides being simple to maintain, they are economical to operate.

**Ask for Informative Booklet**

For more information on how Servi-Cars perform on emergency, special or routine duty, ask your dealer for this 16-page booklet—"More Effective Round-the-Clock Police Power with Harley-Davidson Motorcycles" or write: HARLEY-DAVIDSON MOTOR CO., Milwaukee 1, Wis.

*Ask for statistics on how crime rates go down when Servi-Cars are on the job.

## HARLEY-DAVIDSON police motorcycles

Circle Item No. 4—Reader Service Card

# HOW TO KEEP YOUR DISTANCE

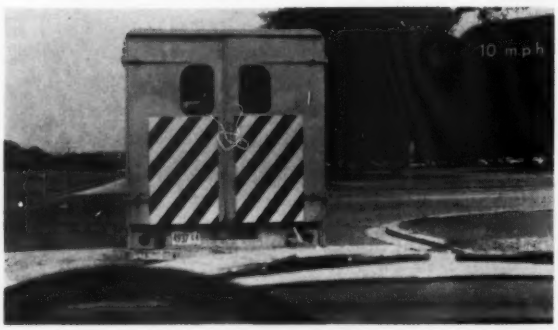
## Series of photos helps drivers visualize correct following distance from 10 to 70 mph

"SAFE following distances should be at least one full car-length for each 10 miles of driving speed; that is, at least five full car lengths when traveling at 50 mph, etc."

Many drivers know this rule-of-thumb for safe following distance, but they seem to have trouble judging such distances. A recent exhibit in Washington, sponsored by the American Automobile Association and the U. S. Department of Labor, displayed seven highly effective photographs to help drivers visualize the distances involved. The photos were provided by Earl J. Krotzer, traffic safety consultant of the Department of Labor. Robert D. Gidel, chief of the Department's Division of Safety Standards and Services sent them on to the National Safety Council.

Using a truck, marked for high visibility, as the "vehicle in front," the photographer snapped pictures from the driver's eye position in the following vehicle. At measured distances, the sequence of photos shows the safe following distance between the vehicles at 10-mile-per-hour increments up to 70 miles per hour. Of course, the safety factor at these distances is dependent on three-fourths second average reaction time, dry road and car in good mechanical condition.

With each succeeding photo, the lengthening line of parked cars give the viewer a clear visual conception of the distances indicated.



## Connecticut to Light 53-Mile Stretch of Turnpike

The State of Connecticut has ordered equipment to light continuously a 53-mile stretch of the Connecticut Turnpike.

Commissioner Newman E. Argraves, of the Connecticut State Highway Department, said the installation, expected to be the nation's longest strip of continuous highway lighting, will extend from Greenwich at the New York state line to Branford.

Approximately 3,250 mercury luminaires and 1,000 fluorescent luminaires and Fluoroflood fixtures will be required. Modern 21,000-lumen Form 400 mercury units will carry the brunt of the illumination job while high-output 49,000 lumen Form 402 mercury luminaires will be installed on wide toll plazas. Fluorescent luminaires will be used for lighting underpasses, and Fluoro-flood units will provide illumination of highway guide signs for increased nighttime visibility. General Electric Company is supplying equipment.

GE photoelectric controls will direct operation of the 1000-watt Form 402 units. All other highway lighting will be energized from 105 series circuits.

Commissioner Argraves explained the State's decision to light the western portion of the turnpike by pointing out that the 53-mile stretch is dotted by 50 interchanges which must be lighted to provide maximum safety for nighttime motorists. To light these areas and leave the remainder of this part of the highway unlighted, he said, would impose "severe handicaps" on motorists. "It simply is not possible for the eye to continually readjust to darkness, then light, then darkness again at frequent intervals for 53 miles," he commented.

Mr. Argraves said that continuous lighting was decided upon as a means of accomplishing three main objectives:

1. To help reduce nighttime accidents and fatalities by providing brightness contrast to permit obstacle recognition.
2. To contribute to driver comfort and thus tend to lessen the early evening peak loads by stimulating greater after-dark use.
3. To increase roadway capacity through traffic placement more nearly in accord with the daytime pattern.

# THE GREEKS HAD A WORD FOR IT

by Nancy Nupuf

THANKS to the Greeks! Thanks for the cultural teachings of ancient Greece—thanks for their influence in today's civilization—and thanks for their namesakes.

Like the classic society of 20 centuries ago, today's "Greeks"—members of Greek letter fraternities and sororities—are eager to learn and promote cultural teachings. But the Greeks at Ohio State University this year had a different idea of what "culture" means. To them, "culture" is more than art and music. To them, it's living a good life, a healthy life—a safe life.

The Greek Buckeyes realized their social responsibility as community leaders of tomorrow. So they followed their cultural forebears' teachings and devoted one week to educating themselves on safety. Combining fun, extra-curricular activities, and hard work, they adapted a new theme to an old campus tradition—Greek Week.

This activity-packed week departs from the traditional collegiate "Hell Week"—the time when fraternities and sororities put their new members through a sort of "basic training." Instead, the Ohio Greeks devote their week to educational programs, promoting a national project or charity, such as the "Crusade for Freedom" last year.

And this year, with the same spirit that "Woody" Hayes used to lead his Buckeyes to the Rose Bowl, these students led the campus in a safety crusade.

Appreciating the size of an accident prevention program, the planners singled out two areas for emphasis—with traffic safety foremost and safe housing practices next. Under Karen Hanson and Phil Myers, student co-chairmen, they selected a theme and began campaigning.

In typical collegiate fashion, the Buckeyes coated the campus with their campaign slogan—"The Greeks Had A Word For It—Safety" ("safety" was spelled out in Greek letters).

Preliminary events began Sunday. Students participated in Sunday morning religious services which stressed accident prevention. Religious ministers emphasized the morality of safety in their sermons. On Monday during the half time of the Ohio State basketball game, student leaders explained the need for safety awareness and outlined the Greek Week Safety campaign.

A sensational kick-off rally on Tuesday spearheaded the week's activities. Beginning with a campus-wide parade of about 4,000 students displaying safety placards, the rally was climaxed with the crowning of a safety king and queen, the awarding of trophies for the outstanding safety placards and a safety speech by Gordon Jeffery, director of the Ohio State Department of Highway Safety, who substituted for Governor C. William O'Neill.

Mr. Jeffery told students, "The proclamation of 'Safety Week on Campus' is highly significant to Governor O'Neill and my highway safety administration, for we think there is no greater need in the education of our college men and women than to place standing advertisements on the college campus for safety . . . it is your responsibility to contribute to the welfare and wisdom of the whole state."

And with his final words—"This safety week on campus must start to kindle such interest, for here at Ohio State the strongest lamps of hope in our state are lighted"—the Buckeyes plunged headlong into a safety-packed week.

Throughout the week, a voluntary motor vehicle safety check was conducted by these young people. All students and faculty members were encouraged to have their cars checked for mechanical fitness—brakes, headlights, tires, windshield wipers, etc. A Greek Week Safety sticker was affixed to each car passing inspection, and a

**STATE PATROLMEN (left) aid students checking campus cars for mechanical fitness. Right: Jerry Esky, Ohio State student, and Dan Webster, National Safety Council, congratulate Joy McClanahan, winner, women's division, driving skill contest.**

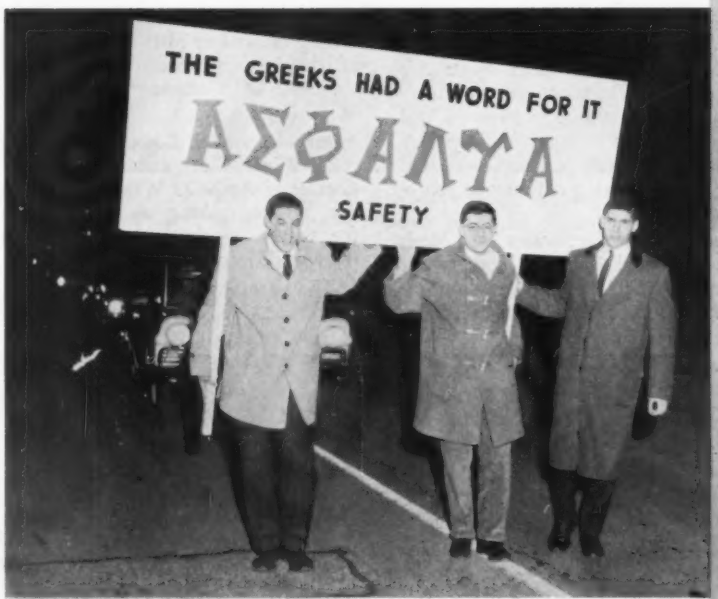
pamphlet on car maintenance and winter driving was given each driver. The inspection was supervised by the Ohio State Highway Patrol, the Columbus Police Department and the University Department of Safety and Security.

Jim Hayes, executive secretary and chairman of the Ohio State Safety Council and D. Knight Finley, manager of the Safety Council of the Columbus Chamber of Commerce served as advisors and aided the students in publicizing the campaign.

The campaign snowballed when the element of competition was added. Fraternities and sororities held individual contests to select their best drivers for the all-campus driving skill competition. Eliminations continued until each house had one candidate. Maximum participation was reached as the students worked together, helping their candidate study and practice for the event.

The contest, held in the stadium, aimed to test and improve driving skills and knowledge. Despite the bitter cold, members of 25 fraternities and 13 sororities stood shivering to cheer on their contestants. The contest was divided into two divisions—one for the men and one for the women. Each entrant first took a writ-

*To Page 64*




**LEADING THE SAFETY week kick-off parade, these fraternity men tote the banner bearing the week's safety slogan.**

**Photos courtesy of John Jailer, Ohio State University student.**

# SAFETYVILLE, U. S. A.

**Child safety program at Ethan Allen Air Force Base wins Carol Lane Award for Airmen's Wives Clubs**

HAVE you ever heard of Safetyville, U. S. A.?

If you live near Ethan Allen Air Force Base, Vermont, you probably have. And now thanks to the Carol Lane Award Program, "Safetyville" and the child safety program associated with it are receiving nationwide recognition.

Carol Lane Certificates of Merit were presented to the "Mothers for Safety" of the 14th Fighter Group at the Base for the group's outstanding child safety program. The certificates were presented by Miss Lane on behalf of the National Safety Council and the Shell Oil Company at a luncheon in Burlington, Vt.

Mrs. Donald E. Longer of the Officer's Wives Club and Mrs. Earl J. Ebersol of the NCO Wives' Club—the two groups making up the Mothers for Safety—received the awards for their work in operating Safetyville.

The program, which began in May, 1956, included instruction in four phases of child safety: home, school, play and bicycle, and pedestrian safety.

Although a project of the Wives' Clubs of the air force base, many other agencies aided in the program by donating money, time, work services, films, materials, speakers and refreshments. Contributions came from organizations on the base and business groups in neighboring communities.

The children who took part in the program included both dependents of service personnel and children from neighboring towns ages 4 to 11 years. Each Saturday morning the children met in the base theater. The children learned safety by participation. The theater program consisted of films on child safety and a session during which safety jingles were taught and sung by the group.

Police from neighboring towns demonstrated the safe method of riding bikes, crossing streets, and the proper method of entering and leaving a bus. Playground safety was also covered.

The sessions were enlivened by the antics of Captain John Frost who portrayed the character Safety Sam, a clown who always gets in trouble through his carelessness. Despite the

**AT SAFETYVILLE, U.S.A., officials pose with children of the base: H. L. Curtis, Shell Oil Co.; Carol Lane, Col. W. J. Hovde, Maj. Gen. E. H. Underhill, EADF Commander; and Brig. Gen. R. S. Israel, 32d Air Div.**

hilarious response of the children to the unsafe practices of Sam, there was no doubt that they learned the safety lesson.

The ABC's of traffic safety were taught toddlers through the construction of the miniature town, "Safetyville." The labor required for this construction was provided by airmen who built realistic buildings, asphalt streets and regulation highway signs. Small vehicles and other equipment were purchased from donated funds or were gifts of various merchants or agencies.

During these demonstrations, some of the children were equipped with miniature police hats, badges and whistles. After instruction in the responsibilities and duties of law enforcement agents, they were stationed at intersections of the miniature city to direct traffic and enforce traffic laws. Other children were designated to operate the tiny vehicles and were indoctrinated in safe driving methods, use of hand signals, and courtesy rules of the road. Older groups were permitted to participate in the program, too. They later aided in the instruction of the younger children.

The heavy turnover of military personnel at the base assured a continuous supply of youngsters to benefit from the training.

Police Sergeant Arthur D' Arcangelo of the Burlington Police Department took an active role in the program. Under his helpful guidance, school-age bicyclists competed in a special bicycle "roadeo." Sergeant D' Arcangelo, along with police officials from Winooski and Essex Junction and the Vermont State Police, gave enthusiastic support to the Safetyville project.

Local television and radio coverage helped build interest in the child safety program. Relations between base personnel and townspeople of the surrounding municipalities reached a high peak of cooperation and friendliness. The participation of all the children, parents and merchants in this program assures continued support and success in training youngsters in safe habits—habits which are a must if we are to cut the accident death toll.

**GROUP OF CHILDREN at Safetyville, U.S.A. with policeman, state patrolman and "Safety Sam."**

**SGT. A. D'ARCANGELO helps youngsters competing in the bicycle roadeo at Ethan Allen Air Force Base.**

**AT LEFT: "Safety Sam" the clown gives the youngsters safety lessons. AT RIGHT: Carol Lane Award proudly held by Mrs. Wanda Songer, Col. William Hovde, base commander, and Mrs. Erna Ebersol.**

# COMING EVENTS

**Mar. 16-19, Dallas, Texas**

Nineteenth Annual Texas Safety Conference (Adolphus Hotel). J. O. Musick, general manager, Texas Safety Association, Inc., 820 Littlefield Bldg., Austin, Texas.

**Mar. 17-18, Boston**

The 37th annual Massachusetts Safety Conference and Exhibit at the Hotel Statler, Boston; directed by Bruce Campbell, manager, and Bert Harmon, assistant manager. Massachusetts Safety Council, 31 State Street, Boston 9, Massachusetts.

**Mar. 17-18, Los Angeles**

Western Safety Conference and Exhibits. Joseph M. Kaplan, manager, Greater Los Angeles Chapter, National Safety Council, 3388 West Eighth St., Los Angeles 5, Calif.

**Mar. 18-19, Ft. Wayne, Ind.**

Northeastern Indiana Safety Conference and Exhibit. Ivan A. Martin, manager, Safety Council, Chamber of Commerce, Ft. Wayne 2, Ind.

**Mar. 24-26, Pasadena, Calif.**

Fifth National Campus Safety Conference. California Institute of Technology. Contact: Charles W. Easley, safety engineer, California Institute of Technology, 1201 E. Calif. St., Pasadena, Calif.

**Mar. 25-27, Pittsburgh, Pa.**

Thirty-third Annual Western Pennsylvania Safety Engineering Conference and Exhibit (Penn Sheraton Hotel). Harry H. Brainerd, executive manager, Western Pennsylvania Safety Council, 605 Park Bldg., Pittsburgh 25, Pa.

**Mar. 25-28, Washington, D. C.**

President's Conf. on Occupation-Safety. Contact: Dir., Bureau of Labor Standards, Dept. of Labor, Washington 25, D. C.

**Apr. 1-2, Chicago**

Mid-West Regional Conference of the President's Committee for Traffic Safety.

**Apr. 8-9, San Francisco**

Western Regional Conference of the President's Committee for Traffic Safety.

**Apr. 9-11, Gainesville, Fla.**

Fifth Annual Conference on Accident Prevention Engineering (University of Florida). Donald B. Wilcox, conference coordinator, Dept. of Industrial Engineering, University of Florida, Gainesville, Fla.

**Apr. 9-11, St. Louis, Mo.**

Central States Safety Conference. (Hotel Chase) William F. Yorger, Managing Director Secretary, 722 Chestnut St., Suite 321, St. Louis, Mo.

**Apr. 11-12, Bay City, Mich.**

Spring Meeting of the Michigan Driver and Safety Education Association on the campus of Central Michigan College. College facilities available for group meetings prior to opening of conference. Contact Kenneth F. Licht, publicity chairman, c/o Bay City Public Schools, Driver Education Department, Bay City, Mich.

**Apr. 14-18, New York**

Twenty-eighth Annual Safety Conference and Exposition of the Greater New York Safety Council (Hotel Statler). Paul F. Stricker, executive vice president, 60 East 42nd St., New York 17.

**Apr. 15-18, Detroit**

Twenty-eighth Annual Michigan Safety Conference (Sheraton Cadillac). Ben Duguid, executive secretary, Allstate Insurance Co., 16130 Northland Drive, Detroit 35, Mich.

**Apr. 16-17, Indianapolis**

Eleventh Central Indiana Safety Conference and Exhibit (Claypool Hotel). Jack E. Gunnell, director, Indianapolis Safety Council, Indianapolis Chamber of Commerce, Indianapolis 11, Ind.

**Apr. 18-19, Hershey, Pa.**

Pennsylvania Association for Safety Education Convention (Community Inn). E. H. Abramowski, president.

**Apr. 21-22, Springfield, Mo.**

Twenty-sixth Annual Conference of the Missouri Peace Officers Association (Colonial Hotel). H. W. Johnson, secretary-treasurer, Law Building, Kansas City, Mo.

**Apr. 22-24, Columbus, Ohio**

Twenty-eighth All-Ohio Safety Congress and Exhibit (Deshler-Hilton Hotel). Arthur W. Moon, congress manager, Room 611, Ohio Dept. Bldg., Columbus 15, Ohio.

**May 1-3, Norfolk, Va.**

Annual Conference of the Virginia Safety Association (Monticello Hotel). James T. Wadkins, manager, 2501 Monument Ave., Richmond, Va.

**May 5-7, Allentown, Bethlehem, Easton, Pa.**

Thirty-first Annual Eastern Pennsylvania Safety Conference. Harold A. Seward, Lehigh Valley Safety Council, 602 East Third St., Bethlehem, Pa.

**May 6-8, Buffalo, N. Y.**

Eighteenth Annual Western New York Safety Conference and Exhibit (Hotel Statler) Clifford H. Seymour, executive secretary, P.O. Box 315, Niagara Falls, N. Y.

**May 8-9, Baltimore, Md.**

Governor's Annual Safety-Health Conference and Exhibit (Lord Baltimore Hotel). Joseph A. Haller, executive chairman, Department of Labor and Industry, 12 E. Mulberry St., Baltimore 2, Md.

**May 19-23, Chicago**

Sixty-second Meeting of the National Fire Protection Association (Palmer House). Percy Bugbee, National Fire Protection Association, 60 Batterymarch St., Boston 10, Mass.

**May 20-21, Louisville, Ky.**

Kentuckiana Safety Conference and Exhibit (Kentucky Hotel), Estel Hack, executive vice president, Louisville Safety Council, 214 Speed Bldg., Louisville 2, Ky.

**May 21-22, Oklahoma City, Okla.**

Tenth Annual Oklahoma Safety Conference (Skirvan Hotel). Contact Bob Eastman, manager, Oklahoma Safety Council, 1600 N.W. 23rd St., Oklahoma City, Okla.

**May 29-30, Miami Beach, Fla.**

Southern Regional Conference of the President's Committee for Traffic Safety.

**June 11-12, Bridgeport, Conn.**

Thirteenth Annual Connecticut Safety Conference (Stratfield Hotel). A. V. Short, publicity director, 15 King St., Wallingford, Conn.

**August 4-5, Denver, Colo.**

Women's Seminar for Local Women's Groups (Senate Chambers, State Capitol). Contact H. A. Storey, Colorado Highway Safety Council, Room 14, State Museum Bldg., Denver 2, Colo.

**Sept. 12-14, Glenwood Springs, Colo.**

Governor's 1958 Teen-Age Traffic Safety Conference. Contact H. A. Storey, Colorado Highway Safety Council, Room 14, State Museum Bldg., Denver 2, Colo.

**Sept. 15-18, Cleveland, Ohio**

Twentieth Annual Ohio State Safety Conference (Hotel Pick-Carter). Contact H. G. J. Hays, secretary-treasurer, 8 East Chestnut St., Columbus 15, Ohio.

**Sept. 16-20, Copenhagen, Denmark**

Fourth International Study Week in Traffic Engineering sponsored by World Touring and Automobile Organization, 12 Chesham Pl., London, SWI, England.

**Sept. 18-19, Rockland, Me.**

Thirty-first Annual Maine State Safety Conference (Samoset Hotel). Arthur F. Minchin, secretary, Department of Labor and Industry, State House, Augusta, Me.

**October 19 & 21, Chicago**

National Teen-Age Safety Leader's Meeting (Conrad Hilton Hotel). Contact H. A. Storey, executive director, Colorado Highway Safety Council, Room 14, State Museum Bldg., Denver 2, Colo.

**Oct. 20-24, Chicago**

Forty-sixth National Safety Congress and Exposition (Conrad Hilton Hotel). R. L. Forney, secretary, National Safety Council, 425 N. Michigan Ave., Chicago 11.

**Oct. 26-31, Mexico City, Mexico**

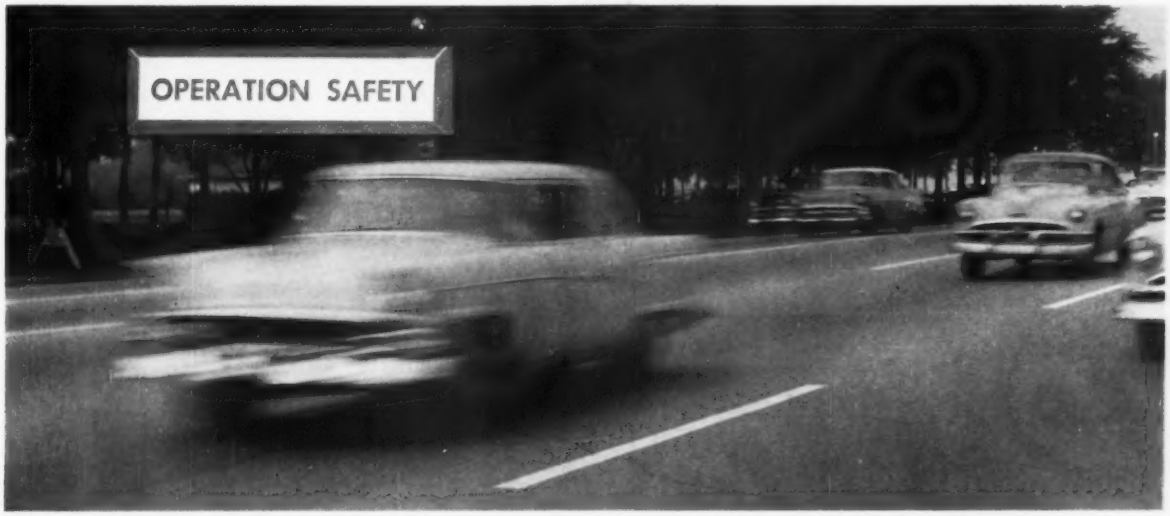
Third World Meeting of the International Road Federation (Hotel Del Prado and Sec. of Communications Bldg.).

**Nov. 10-14, Miami Beach**

Annual Meeting of the Institute of Traffic Engineers (Deauville Hotel). Contact David M. Baldwin, executive secretary, 2029 K Street, Washington 6, D. C.

**TRAINING CALENDAR**

Courses for fleet safety supervisors, traffic court conferences, police and engineers during April, May and June are also listed in this issue.




# CONDITIONS ONLY RELIABLE GUIDE TO SAFE SPEED

IN THIS year of space 1958, satellites are circling the globe at such fantastic speeds that our fastest highway speeds seem insignificant by comparison.

Yet, the satellites streak along in their orbits quite safely, while earthbound vehicles ride to destruction at a comparative snail's pace.

Why?

Because the speed of a satellite is compatible with the conditions that prevail in outer space, but too often the speed of a terrestrial vehicle bears little relationship to the prevailing condition of road, weather, mechanical fitness of the vehicle itself and the mental and physical state of the driver.

All of which indicates that speed itself is not dangerous. Danger enters in when speed is not realistically determined by conditions.

The safety record of our controlled access highways also points up this fact. Statistics show that although they are our highest speed thoroughfares, they are the safest roads in the country.

Speed determined by conditions, then, is the only safe speed. Convincing the public of this and persuading them to drive at such speed is the purpose of your Speed Control program. This is no easy task. Part of the driving public is accustomed to think of speed numerically. These people must be re-educated.

They must be shown that a speed of 20 mph may be too fast for safety in bad weather, on a poor road, in other adverse conditions or when the driver or his car are under par, while 60 mph may be a perfectly safe rate of speed on a clear, dry day when other conditions are also good and the vehicle and driver are both in fine shape.

The fallacy that slow drivers are, per se, safe drivers must also be debunked if a realistic attitude is to be developed. Drivers must realize that the slow-poke—the fellow who drives at a pace much slower than the traffic around him—can be as great a menace as the speeder. Both disrupt the even flow of traffic and thus invite accidents.

Development of an intelligent driver attitude towards speed in your community may not be the easiest job in the world, but it is one that will pay off handsomely in community safety. Such an attitude, combined with strict enforcement of adequate laws, results in effective speed control.

Communities in which this formidable combination is in operation are winning their attack on traffic accidents.

**SPEED CONTROL**

**Operation Safety**

**Theme for June**


Speed Control Program.. 34

Improper Speed A Big Factor In Traffic Accidents ..... 36

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Free Operation Safety Materials ..... 38

When the Law's Around Drivers Take Care .... 39

Posters, Leaflets, Booklets ..... 41

## *PLANNING AN EFFECTIVE*

# SPEED CONTROL PROGRAM

- **Program must be based on thorough engineering studies and accident records.**
- **Enforcement must be strict and impartial.**
- **Public must be persuaded to drive at speeds safe for conditions—must be convinced that improper speed will bring certain and adequate punishment.**

The objective of the Speed Control program is to keep traffic flowing at an even pace—avoiding congestion and accidents. This calls for the elimination of any speed that disrupts the orderly movement of traffic.

Under some circumstances, excessively slow speed can be as disruptive and as dangerous as excessively high speed. The desirable speed is one that is safe for the prevailing conditions of traffic, weather, road, vehicle and driver.

Persuading the public to drive only at such speeds is your job for June. This is an important phase of the Back the Attack campaign, for improper speed contributes heavily to the nation's traffic accident and congestion problems.

Engineering, enforcement and education all have a part in the Speed Control program.

The engineer comes into the picture in the selection of proper speeds for local streets and state or county roads. In addition to making studies to determine safe speeds for various areas, he also checks all speed zones to see if they are properly marked with appropriate signs.

Communities too small to employ a traffic engineer can get engineering help from their State Highway Departments. The latest edition of the Manual on Uniform Traffic Control Devices for Streets and Highways should be used as a guide for proper signs and posting of speed limits.

Education and enforcement overlap a great deal in the speed control program. Good enforcement is always educational. It is especially so in speed control. If the public is convinced that improper speed is likely to lead to trouble, the public will adjust its speed to stay out of trouble.

The speed enforcement program must promote the belief among road users that speed laws and enforcement policies are reasonable, that the police are always present, that detected violations will result in police and court action, and that punishment will be certain and adequate.

Local speed control measures should be designed to conform to the recommendations of the Uniform Vehicle Code.

It is axiomatic, of course, that no enforcement program is any better than the courts which administer it. Fair, enlightened courts, presided over by judges experienced in traffic work, are a must. So is the uniform no-fix traffic ticket.

Many progressive police departments take a substantial number of on-view enforcement actions for improper or unsafe speed that may not be in excess of posted limits—including speed too slow for conditions. This has a salutary effect on passing motorists.

A cruising patrol car has a similar effect. Officials find they can often reduce violations and arrests appreciably by keeping enough patrol cars on view. Many also believe in using a small number of unmarked but well-publicized cars. This gives chronic offenders the uneasy knowledge that they are always under the watchful eye of the law.

Scientific speed measuring devices are a valuable aid to enforcement. However, great care must be exercised in using them. They must be operated by trained personnel who will employ the correct techniques to assure accuracy. Also, the public must be prepared for their introduction in advance and sold on the idea.

# SLOW DOWN ... and LIVE!

**During 1958, the State Safety Coordinators are again conducting their highly successful Slow Down and Live program throughout the continental United States, Puerto Rico, and Canada. Slow Down and Live, which is the Summer emphasis of the Back the Attack on Traffic Accidents campaign, promotes stepped up law enforcement with the accent on speed control. The Operation Safety programs for June, July, and August—Speed Control, Vacation Driving, and Share-the-Road Driving —are grouped under the overall Slow Down and Live Theme.**

***PROGRAM OBJECTIVES***

- **Public education, stressing: personal responsibility support for official programs.**
- **Stepped-up selective enforcement directed at speed violations at the times and places speed is causing accidents.**
- **Legislative action to bring speed provisions of laws and ordinances into conformity with the Uniform Vehicle Code.**
- **Engineering studies to determine safe speeds and proper signing.**

With the foregoing thoughts in mind, contact your officials and work out with them the broad outlines of the Speed Control program.

Roughly, your part in the effort will be two-fold: (1) to educate the public on the entire subject of speed, and (2) to explain and build support for the speed control activities of local officials.

The main educational point you want to get across is that a motorist must always fit his speed to the conditions in which he finds himself. It is important, too, to point out that increased speed increases the severity of any accident that may occur. Some attention must also be given to the danger of speeds too slow for conditions.

The statistics on pages 36 and 37 will give you a great deal of background material useful in planning publicity and projects to make your point with the public. Page 37 contains rules motorists should observe with regard to speed. Another valuable source of information is the newly revised Report of Speed Regulation of the National Safety Council's Committee on Speed. Single copies of this publication are available free from the Council.

Picture features in newspapers and magazines showing the greater distance required to stop a fast moving car than a slow moving one can help give the public a graphic idea of speed. For ideas on how to do this, see the story on page 26 of this issue. Similar pictures, with suitable commentary, could be used on TV.

The same technique could be used to dramatize the greater severity of accidents at higher speeds, to highlight the economy of moderate speeds, to illustrate the dangers of slow poke driving, and to remind drivers of the rules they should observe with regard to speed.

Case histories of serious or fatal local accidents in which speed played a signficant role are good reminders of the danger of unsafe speed.

If the local police department is conducting an emphasis program on speed, give it all the publicity you can. Prepare the public well in advance. Give details of the program. Explain not only what police and courts are doing but also why such action is necessary and how it will pay off in safety to drivers and pedestrians.

If the police are using mechanical speed detection devices or plan to use them, inform the public. Explain how these devices operate and how they help reduce excessive speed, thereby increasing community safety.

The story on page 39 of this issue shows how an industrial concern did an excellent job of building public support for police work through their company magazine. Industry is a strong ally in the Attack on Traffic Accidents. Be sure to cooperate with industries in your area. Provide them with news releases and editorials for their plant magazines; posters to use throughout plant, office and parking lot; and leaflets to distribute to their employees.

You might also do a feature on interesting phases of the engineer's work in speed control. Such things as making studies to arrive at safe speed limits, deciding on placement of speed signs and size of message, timing signals so motorists can avoid stop and go driving would make a good picture story.

# IMPROPER SPEED A BIG FACTOR IN TRAFFIC ACCIDENTS

WE AMERICANS pride ourselves on our common sense. We like to think that we take a realistic view of things. But nothing could be less realistic than our attitude toward driving speed.

Too many of us are inclined to think of speed in an isolated sense. We do not consider it in its relationship to other factors. But, since we do not operate our cars in a vacuum, there are always other factors present. And speed combined with other factors can add up to very real danger.

The facts on these two pages will give you the information you need to get this point across to the driving public.

## THE CONDITIONS

It should not be difficult for a driver with average intelligence to learn that conditions of weather, road, congestion, his vehicle and his own physical and mental state should determine the speed at which he drives.

What may be a safe speed on a straight, well-paved, uncrowded highway may become a dangerous speed on a heavily traveled street or on an unpaved, narrow or winding road. Similarly, rain, fog, or other inclement weather conditions call for a slow down.

It is also reasonable to suppose that if a driver is in a pleasant, relaxed mood and in good health, he will be able to drive safely at a higher speed than he would if he were nervous, worried, fatigued or otherwise under par. If his car is in good mechanical condition it, too, is in better shape to withstand the rigors of faster speed. Worn brakes, tires or any other mechanical fault must be compensated for by a lowered rate of speed.

## SPEED AND THE LAW

Legally, the connection between speed and conditions is well established. In every state a driver is liable to arrest if he is driving at a speed that is not safe under prevailing conditions, even though he may be traveling at a speed well under the posted limit. Since the law takes this view, it is extremely foolhardy for the driver to take any other.

Excessive speed is a problem throughout the country, and all states have enacted legislation to cope with it. The regulations vary with locality, but the traffic laws of all states include the basic rule that motorists must drive at speeds that are reasonable and safe under prevailing conditions.

However, many drivers show little respect for such laws, and as a result they get into trouble. Driving at speeds too fast for conditions is frequently a factor in traffic accidents.

### Here Are Facts

- About three out of 10 drivers in fatal traffic accidents during 1956 were violating a speed law. 32 per cent were exceeding stated speed limits and 10 per cent were exceeding safe speeds although traveling at less than the stated speed limits or on roads with no stated limits.

### Types of Speed Regulations

Three types of regulations governing maximum speed are in use at the present time. A driver should be informed as to the type used in his locality and should make it his business to find out what regulations are in force in any area he intends to visit. An explanation of the various types of maximum speed regulations is given below:

- **Absolute**

  A numerical value is stated.
  Speed in excess of this value is always a violation.
  The limit may or may not be posted.

- **Prima Facie**

  A numerical value is stated.
  Speed in excess of this value is presumed to be a violation, but the driver is given an opportunity to prove that his speed was safe for conditions.
  The limit may or may not be posted.

- **Reasonable and Prudent**

  No numerical value is stated.
  Speed must always be adjusted to conditions.
  This basic rule is contained in the law of every state. Where one of the numerical limits is in effect, the reasonable and prudent limit supplements it.

### Uniform Vehicle Code

A constant effort is being made to bring about uniformity in traffic laws. Many states have revised their traffic legislation to conform with the Uniform Vehicle Code, and conformity with this code is recommended to improve traffic legislation. Chapter 11, Article VIII of the Uniform Vehicle Code deals with speed restrictions. Copies of the Uniform Vehicle Code may be obtained from the Superintend-

ent of Documents, U. S. Printing Office, Washington, D. C. Model legislation is available to communities in the form of the Model Traffic Ordinance.

## SPEED AND SAFETY

Since many factors enter into the making of every accident, it is impossible to give accurate statistics on the relationship between speed and traffic accidents. However there are two facts that are significant in any consideration of this question.

● The first is that a speeding car travels a greater distance between the time the brakes are applied and the time the car stops than a slow-moving vehicle travels in the same time. Obviously, a driver's chances of avoiding an object that suddenly looms in his path increase as his speed decreases.

In 1948 and 1949, the U. S. Bureau of Public Roads tested more than 1,200 vehicles selected from everyday traffic. These tests showed an average stopping distance from 20 m.p.h. for hydraulic brake passenger cars of 21 feet. They also showed that 85 per cent of such vehicles could stop in 25 feet or less. The following table shows findings of the Bureau for passenger cars at speeds from 20 m.p.h. up, showing both the *average* performance and the performance achieved by 85 per cent of the vehicles checked.

| Speed | Average Performance | 85-Percentile Performance |
|---|---|---|
| 20 m.p.h. | 21 ft. | 25 ft. |
| 30 | 42 | 55 |
| 40 | 76 | 108 |
| 50 | 122 | 188 |
| 60 | 191 | 300 |
| 70 | 289 | 453 |

● The second significant fact is that, according to the laws of physics, energy is proportional to the square of the speed. In other words, if you double your speed, you'll hit four times as hard. This can be an important factor in the severity of an accident. The following examples illustrate this point.

> A car striking a fixed obstacle at 20 miles per hour will suffer the same damage as if it were dropped from a height of 13 feet onto a concrete highway.
>
> At 40 miles per hour the damage would be the same as if the car were dropped from a four-story building.
>
> At 50 miles per hour the same as if the car were dropped from a seven-story building.
>
> At 60 miles per hour the same as if the car were dropped from a 10-story building.

## SPEED AND ECONOMY

In addition to the legal and safety aspects of speed there is a third aspect that concerns most drivers. This is the relative expense of speed.

Tests comparing a top cruising speed of 65 miles per hour with one of 40 miles per hour showed the higher speed to be much more costly.

Gas consumption per mile increased 30 per cent at the higher speed and the number of brake applications and braking time increased 50 per cent. Tire wear was two and a half times as great. When speed was stepped up, oil consumption per mile increased even more than gas consumption.

Tests over city routes comparing top speeds of 25 and 35 miles per hour showed that 20 per cent more gas was consumed at the 35-mile per hour speed than at the 25-mile per hour speed.

WITH THESE SPEED RULES

- **Drive at a speed that will enable you to stop in the assured clear distance ahead.**
- **Slow down before you get to curves and intersections.**
- **At night, drive at the speed which will let you stop within your headlight range.**
- **Drive with traffic. You are probably going too fast if you are passing many cars—too slow if many are passing you. Where children are playing, be able to stop in a car length or less.**
- **When you're tired or inattentive, stop.**

# JUNE PROGRAM AIDS

**Films, booklets and other aids for your Speed Control program**

THE films listed below were selected from the *National Directory of Safety Films* (1956 Edition), which may be purchased from the National Safety Council (Price: $1.00). For local film sources write to your state and local safety councils, state safety departments, the film libraries (if any) at your state colleges and universities and the film department of your state library.

WHAT MADE SAMMY SPEED? (16mm sound motion) b&w. or col. 10 min. Presents psychological inquiry into the reason for a bad driving habit—excessive speed—which lead to death for a teen-age boy. Sid Davis Productions, 2500 S. La Brea, Los Angeles 16, Calif. Purchase.

REMEMBER JIMMY (16mm sound or silent motion) b&w. 10 min. A family is injured in an accident and the driver of the other car realizes the tragic consequences of speeding. Akin and Bagshaw, 2027 E. Colfax ave., Denver 6, Colo. Rental.

CASE OF OFFICER HALLIBRAND (16mm sound motion) b&w. 28 min. Story of officer who believes traffic accidents are preventable and five driver types—selfish, silly, tired and angry and the speeder. Modern Talking Picture Service, Inc., 3 E. 54th st., New York 20, N. Y. OK for TV. Loan. ROA's Films, 1696 N. Astor st., Milwaukee 2, Wis. Loan.

SPEED CONTROL (35mm silent slidefilm) b&w. 73 frames. Impresses new drivers with the importance of driving at safe speeds and acquaints them with the factors which determines safe driving speeds. General Motors Corp., Film Library, GM Building, Detroit 2, Mich. Purchase.

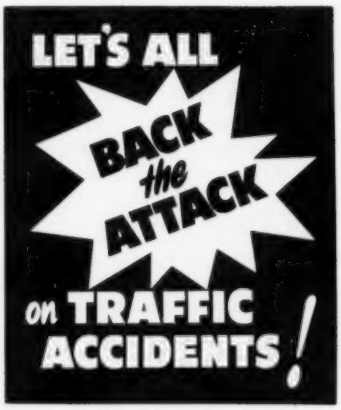
### Newspaper Ads

A new series of newspaper mats on the theme of traffic safety has been designed for business concerns who wish to use traffic safety messages in their advertising. Available in full-page, 1,000-, 600-, 200-, and 100-line sizes. For complete information and ad proofs, write the Advertising Council, Special Service Office, 425 N. Michigan Ave., Chicago 11, Ill.

### Outdoor Advertising

The Mass Marketing Institute, 830 N. Wabash Ave., Chicago 11, Ill., has available outdoor 24-sheet posters, which do an excellent publicity job. Many business firms are receptive to the idea. Write to Mass Marketing Institute for the name of the Outdoor Advertising company serving your area.

Information on imprinting posters and leaflets may be obtained by writing to NATIONAL SAFETY COUNCIL, 425 N. Michigan Ave., Chicago.




### Publications

The following publications are available from the National Safety Council:

*Speed Regulation*—A report of the Committee on Speed, Traffic and Transportation conference, National Safety Council. States the NSC Policy on Speed Regulation. Covers speed as a factor in accidents, legislation, education, engineering and enforcement. Single copy free on request.

*Public Safety Memos:*

No. 22—Brakes and Stopping of Motor Vehicles. May 1956. 13 pp.

No. 28—Use of Skidmarks in Calculating Motor Vehicle Speeds. March 1956. 15 pp.

No. 95—Reaction Time in Automobile Driving. July 1955. 6pp. Order by number. Single copies free. Quantities prices on request.

# FREE OPERATION SAFETY MATERIALS

**Basic aids to help you launch a successful campaign**

TO DO the Operation Safety job thoroughly, you need all the tools. News releases, radio scripts, samples of leaflets and newspaper mats—formerly distributed in the Operation Safety kit—can be obtained by checking the Operation Safety box on the Reader Service Card contained in this issue of TRAFFIC SAFETY.

**Here's what you get:**

▸ **Four News Releases**—designed to feature local personalities and to highlight local conditions. Written by professional journalists, these releases point up the responsibility of each citizen to cooperate in the traffic safety program.

▸ **Four Radio Scripts**—five-minute, interview-type scripts on the Speed Control safety theme. Each spotlights an appropriate local personality and is written for easy adaptation to local traffic situations. Scripts are tailored to fit the requirements of local stations.

▸ **Newspaper Mats**—a sample of each of the featured mats on the Speed Control theme. Designs are one-column miniatures of the featured poster designs shown on page 45.

▸ Leaflets—samples of the featured leaflets on page 45.

*Enforcement—A Vital Key.* For opinion leaders on police traffic supervision.

*Seat Belts—A Step to Safety.* A four-page, two-color leaflet on the value of seat belts.

*Speed Kills.* Warns drivers to set their speed according to conditions.

*Let's All Back the Attack on Traffic Accidents.* The basic leaflet for the national Back the Attack campaign.

# WHEN THE LAW'S AROUND DRIVERS TAKE CARE

**As part of industry's off-the-job safety program, many employee publications are *Backing the Attack on Traffic Accidents* by publishing first-rate articles on highway safety.**

**One of these stories appeared in a recent issue of the *Harvester World*, employee publication of the International Harvester Co.**

**With effective pictures and fast-moving copy, the editor put across the theme: when the law's looking, motorists drive safely. TRAFFIC SAFETY reprints the article to show an effective way to point up enforcement.**

WANT to steer clear of this year's butchery on the highway? Try this:

Drive as though that car behind you were a police patrol car. You'll be amazed at how safe highways can get.

A writer and photographer made this discovery recently while riding two days and a night with the men of the Wisconsin State Patrol. They never saw so many well-mannered persons.

Patrol Car 155, Officer Rolland Wottrich behind the wheel, moved into the Friday afternoon traffic between Milwaukee and Waukesha. The traffic was only moderately heavy, but poor visibility coupled with occasional patches of icy pavement called for caution.

"On days like this," Wottrich was saying, "I like to cruise and be seen, so I won't have accidents to check. Not that I'm not prepared . . ."

He was referring to the accident gear in the back of his car: the first-aid kit, the fire extinguisher, the flags and the fuses, the flashlight with the red wand, the wrecking bar, hatchet and shovel, the Argus C-40 camera and the 100 feet of steel tape.

"It's all there," Wottrich continued, "everything I need. Thank God I don't need it often." The officer paused, then resumed a discourse on motorists.

"Funny thing," he said, "they're all mystified when you stop them. Even the fast ones. They can't underst . . . oops, one headlight is not enough." Wottrich had interrupted himself at the sight of a burned out headlamp on an approaching car. Now he pulled off the highway to let the traffic pass, made a cautious U-turn, began gaining on the violator. Within moments he had curbed his quarry and was looking into the mystified face of a youth wearing a red hunting cap.

"There was no arrest there," Wottrich said later, getting back into the patrol car. "Just a five-day correction ticket. He'll have to have the headlight fixed, get a law officer to verify it, and send the ticket into the district headquarters of the State Patrol. There's no fine, no punishment. But did you notice? While I was filling out the ticket, at least 15 drivers passed and slowed down to watch. You can bet they'll be legal the rest of the way home."

Wottrich cinched his seat belt, swung the car around in the opposite direction. "We never follow a driver after an incident," he explained. "Don't want him to think we're picking on him."

*Turn Page*

## WHEN THE LAW'S AROUND

**WHEN THE PATROL'S AROUND, THE DRIVER'S SOUND**

**Motorist found to have made several attempts to pass illegally is watched by patrolman. Spotting patrol car, driver suddenly becomes "legal."**

**Taillight violation on automobile is spotted by state patrolman.**

**Investigation uncovered motorist who didn't have a driver's license.**

**Helping hand from an arm of the law typifies aid patrolmen give.**

**Patrolman uses handy fire extinguisher in safety good turn.**

From what the photojournalist team could observe on the two-day tour, none of Officer Wottrich's clients could complain of being "picked on." There were but two arrests, both for speeding. ("But, Officer, my speedometer isn't working." "That's illegal, too, sir,") There were a dozen or more warning tickets for borderline violations, one for driving too slow. ("I've got an invalid in the back seat." "Sorry, sir, but you were causing a bottleneck.") There were a handful of five-day correction tickets and there were two motorist assists; a car fire extinguished, a flat tire changed.

There was no occasion to reach for the booklet, "How to Recognize and Handle Abnormal People," a police officer's manual which Wottrich carried with him. ("A police officer must keep his head even though he works in an emotional climate," the manual read.) In driver contacts (the following conversation is typical), emotions were never out of control.

Wottrich: "Good evening, sir. I stopped you for driving in the wrong lane."

Motorist: "Here goes my house and home . . . I wasn't speeding. I was going the right amount of speed."

Wottrich (checking driver's license): "I didn't say you were speeding, sir. I stopped you for ignoring the signs saying, 'Through traffic keep right; inside lane for left turn only.' "

Motorist: "I had to get away from the guy next to me."

Wottrich (pleasantly): "You could have stayed behind him like I did. No problem at all."

Motorist: "I drive this road every day. If I was speeding, I wouldn't say nothing."

Wottrich: "If you're familiar with the roads, you must be familiar with the rules."

Motorist: "I'll never let it happen again."

Wottrich: "I don't think you will."

Motorist: "But I wasn't speeding."

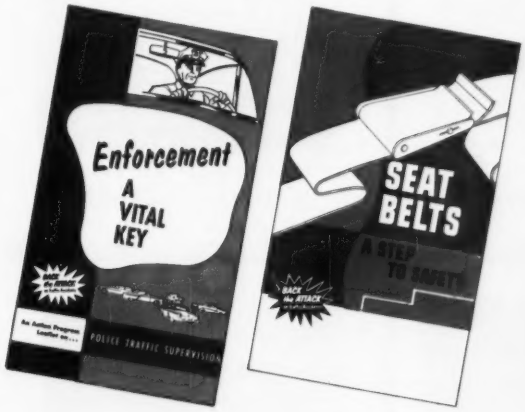
Wottrich (filling out warning ticket): "This will be filed with your driver's record in Madison. You'll just have to be more careful, fellow. You've been warned."

Back in Madison, Colonel L. E. Beier, director of the state patrol,

*To Page 55*

# OPERATION SAFETY MATERIALS

## OPERATION SAFETY AND TRAFFIC PUBLICATIONS




**SEAT BELTS—A STEP TO SAFETY (391.60).** Sold in multiples of 100 and 1000. Price per 100, $2.50. Price per 1,000(M): 1M-4M, $20.00; 5M-9M, $18.00; 10M-19M, $16.00; 20M-99M, $14.00; 100M-199M, $12.00; 200M or more, $10.00.

**ENFORCEMENT—A VITAL KEY (329.16).** Sold in multiples of 100 and 1000. Price per 100, $2.90. Price per 1,000 (M): 1M-4M, $25.00; 5M-9M, $23.00; 10M-19M, $22.00; 20M or more, $21.00.

**LET'S ALL BACK THE ATTACK (397.13).** The basic publication of the Back The Attack Campaign. Sold only in multiples of 1000. Price per 1,000(M): 1M-9M, $6.70; 10M-99M, $5.70; 100M-999M, $5.00; 1,000M or more, $4.50.

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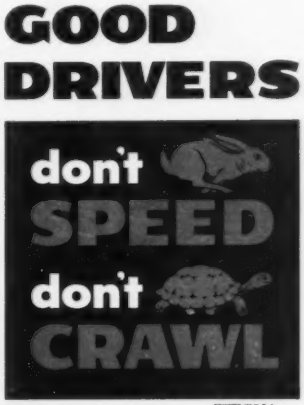


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|---|---|---|---|---|
| A Size | $0.15 | $0.092 | $0.063 | $0.052 |
| B Size | .25 | .18 | .15 | .12 |
| C Size | .35 | .27 | .22 | .20 |

YOUR CREDIT LINE can be imprinted at time of the press run on Traffic B and C posters only. Orders for imprints must be received by April 15, 1958 for the posters above which are intended for June posting.

Imprinting charges for these posters are $2.25 per lot plus an initial charge for each electroplate of $21.00 for C posters imprint and $12.50 for B poster imprint.

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# FLEET POSTERS

## POSTER PRICES

Posters illustrated on these pages are included in the automatic Motor Transportation poster services. Automatic poster sets are available on yearly subscription that provides (4) subjects per month viz. (2) "A" size (8½"x11½") and (2) "B" size (17"x23"). Automatic service is provided in the following categories:

| | | |
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| | 1-9 | 10-99 | 100-999 | 1000-4999* |
|---|---|---|---|---|
| A size, any selection | .15 | .092 | .043 | .052 |
| B size, any selection | .30 | .22 | .185 | .15 |

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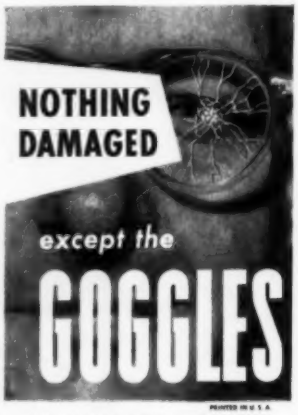
1240-B 17x23

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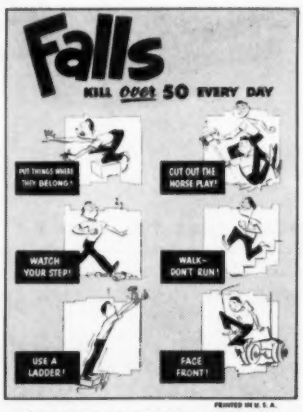


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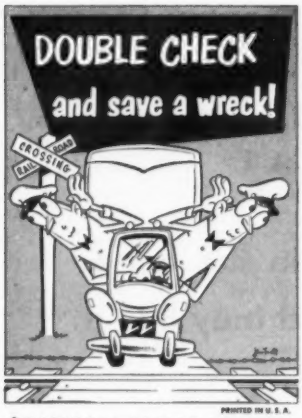


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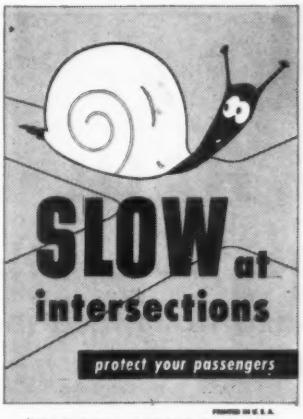


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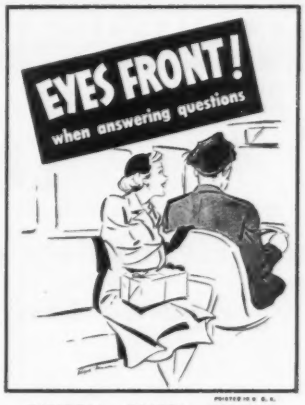


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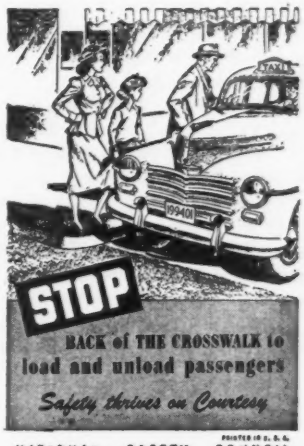


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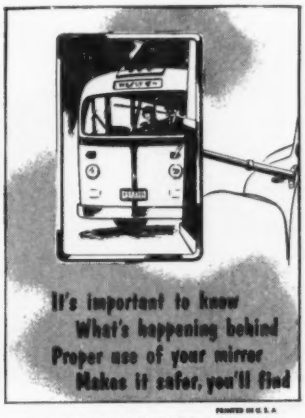


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# LINE HAUL RUN

## Fleet safety director "shoots" drivers in the act or "pans" them at hazardous locations and they like it.

PERHAPS hundreds of fleet safety supervisors have felt the urge to "shoot their drivers in the act" but Ken Beadle, director of safety for Pacific Intermountain Express Company has not only done it, but the drivers like it.

Of course the "shooting" was a staged affair. The gun was a movie camera, and the purpose not to take life but to save it.

All of which adds up to a new pitch in the business of training safe operators for one of the nation's largest commerical vehicle fleets—the use of filmed sequences of accident-producing situations in which the leading roles are played by fellow employees and drivers of P.I.E.

It's still playing the P.I.E. supervision circuit to orient the newly-hired trucker with potential road hazards on his run. Filmed on 16mm magnetic sound color film, and titled "Line Haul Run," the training movie was made for drivers who operate between Oakland, Calif. and Reno, Nevada.

The production of the film was spread over a period of six months. It involved writing the script, three trips over the route to film the sequences plus one retake run, a half-day to shoot titles and diagrams, and the better part of a week in editing, cutting, splicing, timing and coordinating scenes and narrative.

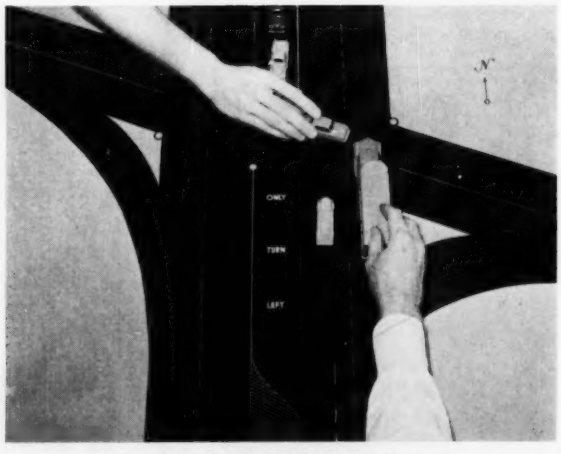
Ken Beadle took more than 1,600 feet of film in his production. The finished product used more than 1,100 feet of this in 30 minutes running time.

As the film opens, P.I.E.'s Driver Winterton checks his rig carefully. He has finished his paper work, signed out and is giving the equipment the once-over. He doesn't care who else has checked the equipment. He has to be satisfied everything is in order, so he checks the brakes before he leaves the yard. The voice of Beadle makes the sequence switch as the first of the many hazards of this line haul run is pointed out;

"You are on your way now. First comes Carlson street in Richmond. If you catch a red light, that slight grade beyond might keep you in sec-

**ACTION—CAMERA**

**Ken Beadle (right) targets hazard zone as he prepares to shoot movie sequence from the P.I.E. tractor cab.**




**RICHMOND HOT SPOT**

**Diagram of hazardous traffic movement at street where opposing left-turn traffic moves on wrong light.**

ond-over, so you will tend to play it for the green light. Let's take a look at a diagram of this intersection. (fade-in of diagram). There are 3-way signals and left-turn lanes. When the light is green for you, it is red for opposing left-turn traffic. The car to watch is the car coming up this lane. He may be watching *this* light at the time it is green and be completely unaware of the proper left-turn lane.

(2nd diagram)

"So here is what can happen and has. *He* is here and *you* are somewhere in here. He proceeds with his left turn. Result? Point of impact *here!* (pointing). The point is—your green light doesn't always give you the freedom you think you have. Someone can cross you up. Keep your eyes open for him.

### "Squeeze Play" a Problem

"A little further along in Richmond is San Pablo junction. It lies just ahead as you approach a curve to the left. It doesn't look like much, but it's a flat curve. So, take it easy. The principal problem at this point is a possible 'squeeze play.' If you are rounding the curve in the outside lane, guard against the tendency to slide over the line to your left. Sufficiently reduced speed will eliminate such tendency.

"At the same time, be prepared for the vehicle at your left immediately in front to veer too far over to the right and crowd you into the sidewalk. A truck once wound up here with a store window in pieces all over his hood. *Not* one of ours, fortunately.

"If you should happen to be on the inside (where you shouldn't be), play it the other way—see that you don't get pinched in, but don't crowd the right lane."

### Pinpoints Hot Spots

All through the 30-minute showing, sequence after sequence shows up the hot spots, prescribes the formula for driving defensively and safely through them. The accent is on caution, courtesy and consideration. Drivers are warned about making diesel smoke, operating their vehicles noisily. Company policies and good public relations are explained and viewed in action.

The P.I.E. film is no substitute for driver training films such as the Council's Defensive Driving series, or other training films of like calibre. But it does personalize the problems inherent in certain routes and the added appeal of the company's own equipment and personnel registers with the men.

In lining up requirements for such movies, Ken Beadle listed this equipment—or similar outfits—as a must: one 16 mm motion picture camera with a turret lens mounting, standard 25 mm lens; wide-angle 16 mm lens and a 4-inch 100 mm lens. The camera is equipped with speed adjustment ranging from 8 frames per second to 64 fps and reverse crank arrangement. A special attachment was used for making a fade-in, fade-out, and lap dissolve.

### Proper Equipment Needed

Other items in the fleet safety supervisor's De Mille outfit include a film editor and splicer, necessary film, title frames or signs, tripod, etc., normally used in taking motion pictures, flood lamps to shoot titles, a projector for recording sound and showing the film, record-playing attachment for use with film, small earphones used as a monitor when dubbing in music or voice, and a stop watch for timing scenes and narrative.

As Mr. Beadle pointed out, it is necessary to line up the script by spotting the hazards on company routes on the basis of fleet experience—from accident records and driver knowledge.

P.I.E.'s film has been shown to officials of the Interstate Commerce Commission, the United States Post Office, and the American Trucking Associations. But the biggest hit was made when it was viewed by P.I.E. drivers.

**RETAKE RUN**

**Preview showed flaws in movie sequence so a retake was in order. "Cecil B. DeBeadle" re-shoots drivers.**

**"OSCAR" WINNER BEADLE**

**Fellow safety directors at American Trucking Assn. meeting award Beadle megaphone, beret and chair.**

# TRAINING VS. INCENTIVES

## *One complements the other*

**by C. D. Calkins**

TWO schools of thought have for some reason arisen in the search by trucking managements for a means of improving an accident record. Some believe that training is the only answer. Others claim that incentives are necessary for true results.

It seems to me there is no reason for conflict. We ought to find out what tools available to all operators can best be used to rid ourselves of the high cost of accidents — at the lowest possible expense and with the greatest lasting good.

Let's take a critical look at what the industry is doing about safety programs:

First, why do so many companies have driver safety programs? What happens within a company to cause it to develop a safety program or to organize a safety department?

We think many things may cause trucking organizations to suddenly "get religion" with regard to safety. One of the most common is a rude awakening to the fact that insurance costs and accident repair costs have reached a point where they represent a narrowing margin between profit and loss.

It often takes a swift poke between the eyes of top management before it wakes up to the fact that it can make more money if it stops believing that accidents are "just one of the things you have to expect if you are going to be a truck operator."

Let's assume that you as a truck operator have seen the light—what happens now?

There's a good possibility you decide you haven't been tough enough. So, you start applying the heat. "Make a few examples of these guys! Fire the next driver who has one! Get rid of these birds who are having accidents!"

The result is, you end up having to hire a half dozen or more new, green men and they make their quota of mistakes and business boners during the time they are learning their way around—with the usual quota of accidents! About this time you begin to wish you were in another business.

Another, calmer approach is the incentive plan—a bonus for not having accidents. You may think that's a sure-fire cure of all accident ills, but it's not.

There's a better cure for the problem, if you stop assuming your drivers are all professionals, and see what you can do to teach them the fundamentals of safe driving.

You may even really try to get to the bottom of the problem by a careful analysis of all the factors.

There may be other reactions to the rude awakening that you have an accident problem, and your approach to the answer to your dilemma, but if you are an average human being, you will probably react in one of these several ways:

A surprisingly large number of smart operators have tried firings or incentives and ended up with the more lasting solution to this business of safe truck operation—training for safety.

Example-setting, firings, harsh discipline, the iron hand, etc. never actually taught anyone anything. The fact is that such an approach usually just makes everyone you have working for you upset and much less receptive to any good suggestion you may later come up with.

Bonus programs may give you a temporary satisfaction by thinking that "I'm paying enough for it, I ought to get safer operation," but does it get to the root of why you are having accidents? Does it help the driver who has a repeater record? Does it teach anyone how to stay out of accidents? Are you really curing your ills? Remember, one driver can still cost you a hundred thousand dollars because he didn't know what to do at the right time, even if you are spending thousands for "incentives."

Incentive programs help morale but such programs can reach a point of diminishing returns and there may be a day when, economically, the plan can't be kept up. When and if that time comes, you are likely to find out what it is like to have a lion by the tail, when morale falls on its face.

Judicious use of incentives is recognized as being a useful adjunct to any good safety program, and I am not against such plans, but remember that incentive plans can turn on an unsuspecting management like a mad dog.

Now let's talk about the plan of training and teaching the driver as a means of preventing accidents:

A training program complete with safety director, a staff, a department, road patrol, training school, supervisory training program and all the rest costs real money, and results may not come as fast as you expect. You have to sell such a program, it has to be well thought out and organized and there aren't that many competent safety program administrators running around loose, who will fit into your particular organization overnight. The amount of leg work and skull work that goes into an effective safety program is amazing—and like we said before, it costs real money to do it right and there's still trial and error in any program, even the most successful.

But (and here is the big point in favor of a thorough training program), it is built on solid ground. The foundation will be there for a successful long-term program. Such an effort is not so likely to collapse of its own weight. Further, your management will never have the problem of rebuilding or doing the job over again.

The author is Safety Director of Pacific Motor Trucking Co., San Francisco, Calif., winner of the Marcus A. Dow Award and past General Chairman of the NSC Commercial Vehicle Section.

Regimented training of the so-called academic type is a mistake, adults being as they are. A happy medium of training, plus incentives, is what management needs for the solution to safety problems. Qualified instruction in the techniques of vehicle operation, laws of motion and physics, stopping distances and a hundred other things will make your drivers safer operators. Money so spent will improve morale because in an individual, knowledge is power to solve problems and a man sure of himself and his position within an organization will be a stable and more efficient worker.

Every management must consider basic economies. Qualified safety men realize that there is no one-shot panacea that will enable a company to attain a good safety record. The battle is long, uphill, hard and never-ending because adult education is education in its most difficult form. It takes a thoroughly sustained effort on the part of every phase of administration to do the job.

With education and enforcement to back such instruction, incentives are good, if wisely used. Special recognition for outstanding driver performance is never money wasted, because it builds up the attitude of your people by assuring understanding of the objective which is year-after-year of safe and efficient job performance. What's more, any management representative and particularly a safety director would be remiss if he didn't see to it that the greatest good comes from the safety program dollar. Never forget that employes that "stay with you" are employes that can be trained.

In my opinion, too little emphasis is placed by the trucking industry on the standards to be achieved by a driver such as those set up by the National Safety Council in its Safe Driver Award Plan. Any training and incentive program must be firmly attached to this industry-accepted standard of driver performance, as without it your program has no objective to shoot at. Your accident evaluation program must be predicated on the preventability of accidents as a basic concept. Such a standard removes company flavor, the "covering up" type of investigating by supervisors who were once drivers, and for the first time attaches performance and discipline to an industry recognized standard.

A driver, working under the National Safety Council Safe Driver Award Plan, knows where he stands when he is involved in an accident. When he receives a National Safety Council Safe Driver Award, he knows it is predicated on a national standard of driver performance. It's his meal ticket whether he works for you or goes to work for some one else be it in San Francisco or Schenectady.

Most important, if you hire a man carrying a National Safety Council Safe Driver Award, you can be assured his record is a proven one, because the Council is pretty fussy about qualifying a driver for its awards.

It seems incongruous that the industry doesn't make greater use of this tool of accident prevention. Of a certainty the driver who works for an operation faithfully following the National Safety Council Safe Driver Award Plan can hold his head up before anyone questioning his record as a professional driver.

Concerning the program itself: every accident prevention program and/or training program needs sustaining materials. Every operator large or small needs every possible source of technical data and printed material he can lay his hands on. Pacific Motor Trucking Company is a large organization. From time to time we devise and print specialized safety and training material. The costs however are many times greater than the costs of good generalized material on a multitude of subjects which may be obtained from the National Safety Council and American Trucking Associations.

*To Page 50*

**TRAINING DEMONSTRATION**

**Practical demonstration of how to avert accidents in hazard spots is key to successful employee safety program.**

**THE PAYOFF**

**Pride in the hard-won NSC Safe Driver Award is shown by beaming driver as he pins it to his cap.**

*Safer—Easier*

# TIRE TRANSPORT FOR FUELS

An unusual new rolling fluid transporter, whose 10 huge rubber tire bags towed by a pillow-tire Teracruzer can transport 5,000 gallons of fuel or other liquids over terrain inaccessible to conventional tank trucks, has been developed for the Army's Transportation Research and Engineering Command by the Four Wheel Drive Auto Company of Clintonville, Wis.

The new fluid transporter, utilizing containers developed by Goodyear Tire and Rubber Company, Akron, O., was unveiled at Clintonville, Wis., for officials of the Army, Navy, Air Force, Marine Corps, and industry.

The transporter developed for the U. S. Army Transportation Corps has 10 fluid carriers, each 5 feet high, 3½ feet wide, and 500-gallon capacity, mounted in pairs on FWD-developed axle and towing assemblies equipped with filling and emptying and braking systems.

Overall capacity of such a fuel train, however, is limited only by pulling power of the towing vehicle and similar transporters are being developed to move more than this 5,000-gallon train. Such rolling fluid transporters, designed for moving fuels, chemicals, water, and other liquids over all types of terrain, have extensive commercial as well as military applications.

By making the fluid containers their own mobile carriers, instead of transporting the load on trucks or other vehicles, the fluid transporter can move liquids over sand, mud, swampland, boulders, side slopes, hills, and rough ground as well as ice and deep snow. The result is easy, safe, and economical movement of bulk liquids under terrain and climatic conditions too difficult for conventional vehicles.

The container tires are mounted on tubular axles with wheel bearings and hub and rim mounting that allow easy removal or replacement of empty tire bags. The air-over-hydraulic brakes of the transporter assemblies are operated from the towing vehicle.

The five pairs of containers in the Transportation Corps fuel train are fastened together by means of tow bars, lunettes, and pintle hooks. The fluid transporter can be towed by any type of vehicle which can traverse the terrain involved.

Applications of fluid transporters are diverse for commercial and military uses:

—Transport of large quantities of fuels for aircraft and missiles over adverse terrain to small clearings and to extend the range of track and other vehicles in military operations.

—Transport of large volumes of water for firefighting in mountainous, forest, and rural areas as well as for refinery, warehouse, and industrial plant fire protection.

—Storage and transport of liquid fertilizers and insecticides for farming purposes or of insecticides for mosquito control.

—Movement of fuel and water to construction sites over soft, rough terrain.

—Transport and storage of water supply for operating personnel in remote areas.

—General transportation of liquids over snow, swamp, and sand or over roads, improved or unimproved.

The rubber containers of the fluid transporters are similar to the low-pressure (3 to 15 pounds per square inch) tires utilized on regular Teracruzers, which are being used as multi-purpose trucks in the ground support and launching system of the Air Force's Matador guided missile.

By putting the liquid-materials load on the ground, in an extremely low rolling resistance "tire" instead of on the back of a truck or other vehicle, the fluid transporters also make possible the use of towing vehicles for other tasks.

The transporters may be shipped readily by open rail car, truck, or barge with maximum safety because of their ability to withstand salt spray as well as snow and rain, cold and heat. They also are air transportable and can be para-dropped and towed from the drop zone by the using vehicle.

**500-GALLON TIRES**

**Made to traverse sand, mud, swampland, rugged ground, ice, and snow, this new fuel train can go where conventional tank trucks cannot as it carries 5,000 gallons of fuel in 10 huge rubber containers each 5 feet high and 3½ feet wide. Unique "watermellon-tire" Teracruzer does the towing but the transporter developed for Army's Transportation Research and Engineering Command can be pulled by various types of vehicles. Featuring an especially-engineered assembly for train-style towing of giant rubber containers developed by Goodyear Tire and Rubber Company, which also developed the tires of the Teracruzer, the new fuel train opens the way to extensive commercial and military applications of similarly-designed fluid transporters. The Teracruzer shown towing the fuel train, a product of Four Wheel Drive Auto Company, is the type used as ground support for the Air Force's Matador missile.**

# HUMAN RELATIONS— KEY TO DRIVER SUPERVISION

By Dr. George D. Heaton

WHILE human relations is the key to all supervision, it bears the same relationship to supervision that pathology bears to the medical profession. Until the science of pathology developed, medicine was mere sorcery and magic. But then pathology gave the medical profession something sure and positive for making diagnosis and applying therapy.

Human relations is no gimmick. Human relations is no technique. It is the pathology from which all techniques develop. When one understands the real meaning of human relations, he sees that it has a definite bearing upon everything from the moment that an employee is being interviewed as a prospective employee on through his orientation, indoctrination, training throughout all of his supervisory experiences.

In fact, human relations is the very foundation of communication, of discipline, of handling complaints, of obtaining the participation of people. It is the pathology of supervision. If the pathology isn't right, the techniques are mere guess work.

### Right Relations Valuable

With the right human relationships, men can find techniques that will not only cure some of the things that disturb us, but will also prevent these things from ever happening.

When you accept the basic principles that human relations is the key to supervision, you can develop adequate and satisfactory techniques for the supervision of drivers and for the supervision of all personnel, not only to eliminate accidents, but also to reduce costs and improve service.

The first basic principle of all human behavior is this: Every attitude that a human being has is his learned way of meeting his needs. You will never get anywhere in the long pull of making your drivers safety conscious unless you recognize that the attitudes of human beings are our learned ways of meeting our needs.

Now there are only two sets of conditions on which my attitudes will ever be changed. One is when I discover that my attitudes which I had learned in childhood and adolescence will no longer meet my needs in an adult world. The moment that I find that any attitude I have will no longer meet my needs I will change that attitude. Nobody can change it for me.

The second set of conditions is when I discover that I have new needs for which I do not have attitudes. I have a son who lives in California. He married a year ago and my wife and I read the letters that his wife writes to us and since he's in Hollywood, we really wondered if it's our son that she's living with. The man she writes about is not the one we lived with. I'd get up every morning at four at home. That's when he was coming to bed.

We shared the same bath and he'd always be with me and say, "Boy, I'd never work that hard for a living." I preached to him; I lectured to him but he was allergic to hammers, saws, lawn mowers and was sensitive to anything that involved work. But now our daughter-in-law writes about a man she's living with who has made all the living room furniture, who gets up at four o'clock every morning and goes to work.

She says he's my son. But you see he didn't have any needs that required those attitudes as long as I was feeding him. When he became a husband, he found he had needs for which he didn't have attitudes, therefore, he changed.

Now this is the underlying principle to change the attitudes of people. You have to build on a sound pathology, you can't go around with patent medicine remedies. You have to understand how people do change their attitudes by the statements that have been made to you.

### One Source of Thinking

Every human being has only one resource for thinking, just one. That resource is the accumulation of all his past memories of his experiences. There is no such thing as a bolt out of the blue. There is no such thing as an idea that's unrelated to a man's past experiences. The only way you can think and the only way anyone else can think is by marshalling memories of past experiences to bear on a problem.

If you will understand that all human behavior in its thinking process is but the use of the memory of past experiences, then you can make sure your people will have experiences to draw on to think their way in a pattern of safety. But, if they are denied the experiences which furnish their background of memories in thinking, they will be unable to think as they move along a highway.

Now, in the pathology of supervision the third principle is that every human being is unique. Every human being is a unique individual. God has gone to great pains to make each driver different from every other human being.

*Turn Page*

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But what is more amazing, no two human beings have ever had the same experiences; no two human beings have ever acquired the same attitudes, the same habits, the same preferences. If you forget everything else, remember, that every human being who works for your company can make a contribution to the solution of a problem which no other person in your company can make.

For memories are all different and there isn't any problem of safety, reduction of cost, improvement of service but that any individual regardless of his academic background can make a unique contribution to the solution of that problem which no other human being can make.

This is the real dignity of man and the pathology of supervision dictates that if you want the cooperation of people, you must give meaning and purpose to what they do in work by recognizing that uniqueness in their dignity, whereby they can make a contribution to the solution of problems which no one else can make.

If you don't do it, you can't pay them high enough wages, you can't give them enough fringe benefits, you can't give them enough security that they will ever be anything other than sullen and antagonistic and non-cooperative. You have violated that basic element in the pathology of human relationships that God made me unique and I can do something and think thoughts which no other human being can do.

There is another philosophy which seems to destroy this pathology more than anything else, and which helps destroy good human relationships more than anything else. It is best described in this brief passage from the Bible:

"Bend your ear to this knowledge that caution may be your safeguard and prudence may take care of you. Keep hold of caution and sound sense that they may save you from the loose woman. Her lips drop honeyed words, her talk is smoother than oil itself but the end with her is bitter as poison, sharp as a sword with double edge, her feet go down to death, her steps lead straight to the grave. The high road of life is not for her, shifting and slippery are her tracks."

Who is this loose woman? I'll list her many names for she has several aliases. She is misunderstanding, she is misjudgment, she is miscalculation, she is misinterpretation, she is misteaching, she is mistake. Whatever her name, she's a dangerous woman.

She destroys the relationships among men that enable them in full dignity to grapple with their mutual problems and if you will but recognize the basic elements in the pathology of supervision you will be able to build your own techniques which, founded upon the truths about people, will enable you to accomplish what is the goal of all management—to get an important job done with the help of other people.

It is practically impossible to do it without their help. Through good human relationship is the way you get the help of other people to do this important job.

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## Training vs. Incentives

*From Page 47*

For the relatively small quantities of posters, leaflets, and other training and teaching aids required, in most organizations, private preparation cost is prohibitive. A National Safety Council affiliation gives the operator a vast store of materials he can draw from at reduced prices. The American Trucking Association and National Safety Council makes available the newest and latest materials at quantity production prices. The operator, whatever the size of his organization, gets big dollar for dollar value from these affiliations whose interests in no way conflict with the other. They fill important needs in safety, employe training and administration. Again, if you as an operator are not now making use of the services of both of these organizations, you aren't getting the most good out of your training and safety dollar.

Investigate the costs of National Safety Council and American Trucking Association memberships. The outlay is ridiculously small as compared to what they will return to you in better job performance, greater operational efficiency, not to mention, figures on the black side of the ledger. It should be pointed out, however, that joining is one thing, selecting and applying the material, another.

In summary, remember the title of this article is "Training vs. Incentives." I have no desire to discredit incentives. I sincerely believe they are an important adjunct to a safety program but incentive is only one phase of driver training. To achieve a good safety record, full attention must be given to policy and work methods and employe training. With incentives, the results of instruction are stabilized through higher morale.

Programs built on the solid foundation of good basic planning will work. Just be sure that you put first things first.

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## Deepfreeze Test Lab

*From Page 15*

ing League, Chicago; Leo Sprague, test driver, General Motors Proving Grounds, Milford, Mich.; Dick Boose, safety director, Norwalk Ohio Truck Lines; William A. Cox, safety engineer, and Bill Sarachman, commercial driver, Interstate Motor Freight System, Grand Rapids, Mich.; Julius Gaussoin, president, Silver Eagle Company, Portland, Ore.; Ted Sapp, tire test engineer, B. F. Goodrich Co., Akron, Ohio; Clarence Hofelt, tire test engineer, General Tire Co., Akron, Ohio; Gerry Burgess, technician, General Motors Proving Grounds, Milford, Mich.; Hubert A. Abbott, test driver, International Harvester Co., Fort Wayne, Ind.; Ray Hunter, commercial driver, Consolidated Freightways, Indianapolis, Ind., and Andy Sharrow, test driver, Chrysler Corporation, Detroit, Mich.

Also in attendance were John W. Blair, vacuum power equipment engineer, Bendix Aviation Corp., South Bend, Ind.; Sid Cato, press representative, NSC; Daniel C. Clark, associate engineer, Cornell Aeronautical Laboratory; Dan Harmon, tire test engineer, Goodyear Tire and Rubber Co., Akron, Ohio; Jim Lehman, photographer, NSC; Elmer V. Mahl, commercial driver, Spector Mid-States Freight System, Chicago, Ill.; Harry H. Miller, research associate, University of Wisconsin; William F. Milliken, Jr., director, full scale testing division, Cornell Aeronautical Laboratory; Russell Sheldon, commercial driver, Motor Cargo, Inc., Milwaukee, Wis.; Harold Vik, consulting engineer, General Engineering Co., Portage, Wis.; David W. Whitcomb, head—vehicle dynamics dept., Cornell Aeronautical Laboratory; Ross G. Wilcox, highway engineer, Portland Cement Association, Chicago, Ill.

# Latest Traffic Accident Data

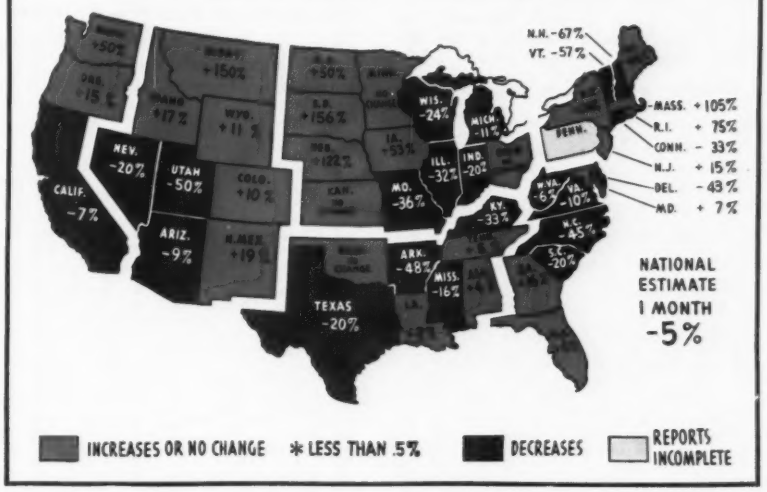
*From Page 4*

The leading cities in each population group at the end of January, ranked according to the number of deaths per 10,000 registered vehicles, were:

| | Reg. Rate |
|---|---|
| **Over 1,000,000 Population** | |
| Detroit, Mich. | 2.0 |
| Chicago, Ill. | 2.4 |
| Philadelphia, Pa. | 3.8 |
| **750,000-1,000,000 Population** | |
| Washington, D. C. | 1.1 |
| San Francisco, Calif. | 1.7 |
| St. Louis, Mo. | 2.0 |
| **500,000-750,000 Population** | |
| Milwaukee, Wis. | 0.2 |
| Dallas, Tex. | 0.9 |
| Minneapolis, Minn. | 1.7 |
| **350,000-500,000 Population** | |
| Kansas City, Mo. | 0.0 |
| Indianapolis, Ind. | 0.5 |
| Oakland, Calif. | 0.8 |
| **200,000-350,000 Population** | |
| Long Beach, Calif. | 0.0 |
| Flint, Mich. | 0.0 |
| Norfolk, Va. | 0.0 |
| **100,000-200,000 Population** | |
| Fresno, Calif. | 0.0 |
| Charlotte, N. C. | 0.0 |
| Youngstown, Ohio | 0.0 |
| **50,000-100,000 Population** | |
| Tucson, Ariz. | 0.0 |
| Orlando, Fla. | 0.0 |
| Stockton, Calif. | 0.0 |
| **25,000-50,000 Population** | |
| Las Vegas, Nev. | 0.0 |
| Muskegon, Mich. | 0.0 |
| Boise, Idaho | 0.0 |
| **10,000-25,000 Population** | |
| Hollywood, Fla. | 0.0 |
| Kingsport, Tenn. | 0.0 |
| Robbinsdale, Minn. | 0.0 |

**STATE and city death records listed on these pages are reported to the Council by state and city agencies participating in the Council's accident reporting project. Reporting deadline for cities—the 23rd, for states—the 25th, of the following month.**

## CHANGES IN MOTOR-VEHICLE DEATHS
### FIRST MONTH 1957 TO 1958




## MOTOR-VEHICLE DEATHS
### 1956, 1957 and 1958

| Month | 1956 | 1957 | 1958 | 1956-58 Change | 1957-58 Change |
|---|---|---|---|---|---|
| January | 2,954 | 2,870 | 2,730 | — 8% | —5% |
| February | 2,652 | 2,470 | | | |
| March | 2,940 | 2,880 | | | |
| April | 2,970 | 2,970 | | | |
| May | 3,094 | 3,000 | | | |
| June | 3,338 | 3,340 | | | |
| July | 3,555 | 3,240 | | | |
| August | 3,535 | 3,680 | | | |
| September | 3,653 | 3,330 | | | |
| October | 3,476 | 3,480 | | | |
| November | 3,603 | 3,530 | | | |
| December | 3,858 | 3,710 | | | |
| Total | 39,628 | 38,500 | | | |

All 1956 figures are from the National Office of Vital Statistics.

All other figures are National Safety Council estimates. The 1958 national estimate is arrived at by assuming that the percentage change from 1957 to 1958 in the states reporting for both years reflects the 1957-1958 change in the entire country. First reports are preliminary, so revisions are made from time to time as later reports are received for the various months. Thus, figures above for 1958 may differ slightly from figures for the same months which will be published in future issues of TRAFFIC SAFETY.

# TRAFFIC DEATHS—CITY RECORDS

The table covers only motor-vehicle deaths resulting from traffic accidents that occurred in the city. Nontraffic motor-vehicle deaths (where the accident occurred on home or work premises) are not included; nor are deaths in the city from accidents occurring outside.

Rankings are based on the 1958 registration death rate which is the number of deaths per 10,000 registered motor vehicles on an annual basis. Vehicle registration figures are for the year 1957 and were supplied by R. L. Polk & Company.

Cities are ranked by death rates—from low to high. When two or more cities have exactly the same rate, ranking is by total vehicle registrations—from large to small.

Cities shown in heavy type have improved in 1958 compared with 1957.

The population death rate is the number of deaths per 100,000 population on an annual basis. Populations are as of April, 1950, or later censuses taken by the U. S. Bureau of the Census.

| | One Month 1958 | 1957 | 1956 | 1958 Reg. Death Rate | 1958 Pop. Death Rate |
|---|---|---|---|---|---|
| ALL REPORTING CITIES | | | | 2.1 | 8.3 |
| **Group I** (1,000,000 and over) | | | | | |
| 1. Detroit, Mich. | 11 | 12 | 22 | 2.0 | 6.9 |
| 2. Chicago, Ill. | 20 | 27 | 30 | 2.4 | 6.4 |
| All cities in this group | | | | 3.7 | 8.7 |
| 3. Philadelphia, Pa. | 16 | 18 | 20 | 3.8 | 9.2 |
| 4. Baltimore, Md. | 10 | 5 | 14 | 3.9 | 11.6 |
| 5. New York, N. Y. | 63 | 49 | 54 | 5.5 | 9.7 |
| **Group II** (750,000 to 1,000,000) | | | | | |
| 1. Washington, D. C. | 2 | 5 | 7 | 1.1 | 2.8 |
| 2. San Francisco, Calif. | 4 | 8 | 7 | 1.7 | 6.2 |
| All cities in this group | | | | 1.9 | 6.3 |
| 3. St. Louis, Mo. | 5 | 7 | 12 | 2.0 | 7.0 |
| 4. Cleveland, Ohio | 7 | 4 | 8 | 2.7 | 8.7 |
| **Group III** (500,000 to 750,000) | | | | | |
| 1. Milwaukee, Wis. | 4 | 7 | 6 | 0.2 | 0.6 |
| 2. Dallas, Texas | 2 | 8 | 2 | 0.9 | 4.1 |
| 3. Minneapolis, Minn. | 3 | 3 | 1 | 1.7 | 6.9 |
| 4. Boston, Mass. | 4 | 1 | 4 | 2.7 | 6.6 |
| All cities in this group | | | | 3.0 | 11.4 |
| 5. Cincinnati, Ohio | 5 | 8 | 3 | 3.3 | 11.0 |
| 6. New Orleans, La. | 5 | 11 | 9 | 3.4 | 10.0 |
| 7. Seattle, Wash. | 8 | 1 | 8 | 3.5 | 16.7 |
| 8. Houston, Texas | 12 | 7 | 7 | 3.9 | 20.3 |
| 9. Buffalo, N. Y. | 10 | 3 | 2 | 6.3 | 20.0 |
| **Group IV** (350,000 to 500,000) | | | | | |
| 1. Kansas City, Mo. | 0 | 7 | 1 | 0.0 | 0.0 |
| 2. Indianapolis, Ind. | 1 | 5 | 2 | 0.5 | 2.6 |
| 3. Oakland, Calif. | 1 | 6 | 5 | 0.8 | 3.1 |
| 4. Birmingham, Ala. | 1 | 6 | 5 | 1.0 | 3.4 |
| 5. Portland, Ore. | 2 | 3 | 5 | 1.2 | 5.8 |
| 6. Denver, Colo. | 3 | 3 | 3 | 1.7 | 7.6 |
| 7. San Antonio, Texas | 4 | 4 | 2 | 2.4 | 10.6 |
| 8. Memphis, Tenn. | 3 | 4 | 5 | 2.5 | 7.3 |
| All cities in this group | | | | 2.5 | 10.0 |
| 9. San Diego, Calif. | 7 | 3 | 6 | 4.8 | 17.0 |
| 10. Atlanta, Ga. | 9 | 7 | 10 | 6.0 | 22.0 |
| 11. Columbus, Ohio | 10 | 2 | 5 | 6.7 | 27.8 |
| **Group V** (200,000 to 350,000) | | | | | |
| 2. Long Beach, Calif. | 0 | 8 | 3 | 0.0 | 0.0 |
| 2. Flint, Mich. | 0 | 1 | 0 | 0.0 | 0.0 |
| 3. Norfolk, Va. | 0 | 0 | 0 | 0.0 | 0.0 |
| 4. Syracuse, N. Y. | 0 | 0 | 0 | 0.0 | 0.0 |
| 5. Toledo, Ohio | 1 | 3 | 1 | 0.8 | 4.0 |
| 6. Oklahoma City, Okla. | 1 | 0 | 3 | 0.8 | 4.2 |
| 7. Dayton, Ohio | 1 | 2 | 2 | 0.8 | 4.6 |
| 8. Wichita, Kan. | 1 | 1 | 0 | 0.9 | 5.3 |
| 9. Omaha, Neb. | 1 | 1 | 2 | 1.1 | 4.3 |
| 10. Rochester, N. Y. | 2 | 4 | 2 | 1.7 | 6.9 |
| 11. Honolulu, T. H. | 2 | 2 | 1 | 1.7 | 9.7 |
| 12. Tulsa, Okla. | 2 | 1 | 1 | 1.8 | 10.7 |
| 13. Akron, Ohio | 2 | 7 | 6 | 1.9 | 7.8 |
| All cities in this group | | | | 1.9 | 8.7 |
| 14. Richmond, Va. | 2 | 1 | 2 | 2.2 | 10.1 |
| 15. Providence, R. I. | 2 | 1 | 1 | 2.6 | 9.7 |
| 16. Fort Worth, Texas | 4 | 2 | 7 | 2.9 | 14.5 |
| 17. Tampa, Fla. | 3 | 1 | 2 | 3.0 | 13.3 |
| 18. St. Paul, Minn. | 4 | 0 | 3 | 3.4 | 15.3 |
| 19. Miami, Fla. | 7 | 3 | 0 | 3.7 | 32.4 |
| 20. Worcester, Mass. | 2 | 1 | 1 | 4.1 | 11.8 |
| 21. Jacksonville, Fla. | 4 | 1 | 1 | 5.8 | 19.2 |
| **Group VI** (100,000 to 200,000) | | | | | |
| 1. Fresno, Calif. | 0 | 1 | 0 | 0.0 | 0.0 |
| 2. Charlotte, N. C. | 0 | 1 | 2 | 0.0 | 0.0 |
| 3. Youngstown, Ohio | 0 | 2 | 3 | 0.0 | 0.0 |
| 4. Albuquerque, N. M. | 0 | 1 | 0 | 0.0 | 0.0 |
| 5. Shreveport, La. | 0 | 1 | 0 | 0.0 | 0.0 |
| 6. Austin, Texas | 0 | 0 | 1 | 0.0 | 0.0 |
| 7. Kansas City, Kan. | 0 | 1 | 0 | 0.0 | 0.0 |
| 8. Rockford, Ill. | 0 | 1 | 0 | 0.0 | 0.0 |
| 9. Canton, Ohio | 0 | 2 | 1 | 0.0 | 0.0 |
| 10. Wilmington, Del. | 0 | 1 | 1 | 0.0 | 0.0 |
| 11. Arlington, Va. | 0 | 2 | 0 | 0.0 | 0.0 |
| 12. Bridgeport, Conn. | 0 | 0 | 1 | 0.0 | 0.0 |
| 13. Peoria, Ill. | 0 | 0 | 1 | 0.0 | 0.0 |
| 14. Hartford, Conn. | 0 | 1 | 1 | 0.0 | 0.0 |
| 15. Jackson, Miss. | 0 | 2 | 0 | 0.0 | 0.0 |
| 16. Saginaw, Mich. | 0 | 6 | 2 | 0.0 | 0.0 |
| 17. New Haven, Conn. | 0 | 1 | 1 | 0.0 | 0.0 |
| 18. Madison, Wis. | 0 | 0 | 0 | 0.0 | 0.0 |
| 19. Lubbock, Texas | 0 | 0 | 0 | 0.0 | 0.0 |
| 20. Lincoln, Neb. | 0 | 0 | 0 | 0.0 | 0.0 |
| 21. Allentown, Pa. | 0 | 1 | 0 | 0.0 | 0.0 |
| 22. Reading, Pa. | 0 | 0 | 0 | 0.0 | 0.0 |
| 23. Utica, N. Y. | 0 | 0 | 0 | 0.0 | 0.0 |
| 24. Waterbury, Conn. | 0 | 0 | 0 | 0.0 | 0.0 |
| 25. Sacramento, Calif. | 1 | 1 | 1 | 1.2 | 7.6 |
| 26. San Jose, Calif. | 1 | 2 | 1 | 1.3 | 9.4 |
| 27. Spokane, Wash. | 1 | 1 | 0 | 1.4 | 6.4 |
| 28. Fort Wayne, Ind. | 1 | 0 | 2 | 1.5 | 8.3 |
| 29. Tacoma, Wash. | 1 | 1 | 3 | 1.6 | 7.6 |
| 30. Gary, Ind. | 1 | 3 | 3 | 1.7 | 7.1 |
| 31. Corpus Christi, Texas | 1 | 2 | 1 | 1.7 | 8.3 |
| All cities in this group | | | | 1.8 | 8.6 |
| 32. Pasadena, Calif. | 1 | 1 | 7 | 1.9 | 10.5 |
| 33. Erie, Pa. | 1 | 1 | 0 | 1.9 | 8.8 |
| 34. South Bend, Ind. | 1 | 0 | 0 | 1.9 | 9.1 |
| 35. Evansville, Ind. | 1 | 3 | 1 | 1.9 | 7.1 |
| 36. Knoxville, Tenn. | 1 | 0 | 1 | 2.0 | 9.6 |
| 37. Grand Rapids, Mich. | 2 | 2 | 5 | 2.1 | 12.3 |
| 38. Montgomery, Ala. | 1 | 0 | 1 | 2.2 | 10.3 |
| 39. Glendale, Calif. | 1 | 2 | 1 | 2.2 | 10.3 |
| 40. Trenton, N. J. | 1 | 0 | 1 | 2.2 | 9.4 |
| 41. Phoenix, Ariz. | 3 | 1 | 3 | 2.3 | 22.5 |
| 42. Yonkers, N. Y. | 1 | 2 | 1 | 2.3 | 6.7 |
| 43. Savannah, Ga. | 1 | 0 | 2 | 2.4 | 9.2 |
| 44. Amarillo, Texas | 1 | 1 | 2 | 2.4 | 12.0 |
| 45. Salt Lake City, Utah | 2 | 0 | 3 | 2.4 | 12.5 |
| 46. Hammond, Ind. | 1 | 2 | 0 | 3.3 | 11.1 |
| 47. Niagara Falls, N. Y. | 1 | 0 | 0 | 3.3 | 11.9 |
| 48. Baton Rogue, La. | 2 | 2 | 0 | 3.5 | 16.7 |
| 49. Des Moines, Iowa | 3 | 1 | 0 | 4.1 | 19.7 |
| 50. Chattanooga, Tenn. | 2 | 0 | 3 | 4.2 | 18.3 |
| 51. Little Rock, Ark. | 2 | 1 | 3 | 4.7 | 22.4 |
| 52. Waco, Texas | 2 | 3 | 2 | 5.3 | 23.7 |
| 53. Duluth, Minn. | 2 | 2 | 1 | 5.5 | 22.7 |
| 54. Elizabeth, N. J. | 2 | 2 | 1 | 6.5 | 20.5 |
| 55. Nashville, Tenn. | 6 | 1 | 0 | 7.2 | 41.3 |
| 56. Mobile, Ala. | 4 | 1 | 3 | 7.5 | 27.6 |
| 57. El Paso, Texas | 5 | 0 | 6 | 8.4 | 34.1 |
| **Group VII** (50,000 to 100,000) | | | | | |
| 1. Tucson, Ariz. | 0 | 3 | 1 | 0.0 | 0.0 |
| 2. Orlando, Fla. | 0 | 2 | 1 | 0.0 | 0.0 |
| 3. Stockton, Calif. | 0 | 1 | 1 | 0.0 | 0.0 |
| 4. Raleigh, N. C. | 0 | 0 | 0 | 0.0 | 0.0 |
| 5. Burbank, Calif. | 0 | 0 | 0 | 0.0 | 0.0 |
| 6. Beaumont, Texas | 0 | 0 | 0 | 0.0 | 0.0 |
| 7. Columbia, S. C. | 0 | 1 | 2 | 0.0 | 0.0 |
| 8. Alexandria, Va. | 0 | 1 | 1 | 0.0 | 0.0 |
| 9. Santa Ana, Calif. | 0 | 0 | 0 | 0.0 | 0.0 |
| 10. Colorado Spgs., Colo. | 0 | 0 | 0 | 0.0 | 0.0 |
| 11. Macon, Ga. | 0 | 0 | 0 | 0.0 | 0.0 |
| 12. Lexington, Ky. | 0 | 0 | 0 | 0.0 | 0.0 |
| 13. Royal Oak, Mich. | 0 | 1 | 0 | 0.0 | 0.0 |
| 14. Springfield, Mo. | 0 | 0 | 0 | 0.0 | 0.0 |
| 15. Joliet, Ill. | 0 | 1 | 0 | 0.0 | 0.0 |
| 16. Cedar Rapids, Iowa | 0 | 1 | 1 | 0.0 | 0.0 |
| 17. Jackson, Mich. | 0 | 1 | 1 | 0.0 | 0.0 |
| 18. Battle Creek, Mich. | 0 | 0 | 0 | 0.0 | 0.0 |
| 19. Columbus, Ga. | 0 | 0 | 0 | 0.0 | 0.0 |
| 20. Newton, Mass. | 0 | 0 | 1 | 0.0 | 0.0 |
| 21. Lancaster, Pa. | 0 | 2 | 0 | 0.0 | 0.0 |
| 22. Hayward, Calif. | 0 | 0 | 0 | 0.0 | 0.0 |
| 23. Wichita Falls, Texas | 0 | 1 | 3 | 0.0 | 0.0 |
| 24. Terre Haute, Ind. | 0 | 0 | 2 | 0.0 | 0.0 |
| 25. Racine, Wis. | 0 | 0 | 0 | 0.0 | 0.0 |
| 26. Muncie, Ind. | 0 | 0 | 3 | 0.0 | 0.0 |
| 27. Davenport, Iowa | 0 | 0 | 0 | 0.0 | 0.0 |
| 28. Santa Barbara, Calif. | 0 | 0 | 0 | 0.0 | 0.0 |
| 29. Anderson, Ind. | 0 | 0 | 1 | 0.0 | 0.0 |
| 30. Warren, Ohio | 0 | 0 | 0 | 0.0 | 0.0 |
| 31. Green Bay, Wis. | 0 | 0 | 1 | 0.0 | 0.0 |
| 32. Augusta, Ga. | 0 | 0 | 0 | 0.0 | 0.0 |
| 33. Evanston, Ill. | 0 | 0 | 0 | 0.0 | 0.0 |
| 34. Santa Monica, Calif. | 0 | 1 | 1 | 0.0 | 0.0 |
| 35. Bethlehem, Pa. | 0 | 0 | 2 | 0.0 | 0.0 |
| 36. St. Joseph, Mo. | 0 | 0 | 0 | 0.0 | 0.0 |
| 37. Portsmouth, Va. | 0 | 0 | 0 | 0.0 | 0.0 |
| 38. Manchester, N. H. | 0 | 0 | 2 | 0.0 | 0.0 |
| 39. Mt. Vernon, N. Y. | 0 | 0 | 0 | 0.0 | 0.0 |
| 40. Asheville, N. C. | 0 | 0 | 0 | 0.0 | 0.0 |
| 41. Bay City, Mich. | 0 | 0 | 1 | 0.0 | 0.0 |
| 42. Sioux Falls, S. D. | 0 | 0 | 0 | 0.0 | 0.0 |
| 43. Lorain, Ohio | 0 | 0 | 0 | 0.0 | 0.0 |
| 44. Kenosha, Wis. | 0 | 0 | 0 | 0.0 | 0.0 |
| 45. Portland, Me. | 0 | 0 | 2 | 0.0 | 0.0 |
| 46. Pawtucket, R. I. | 0 | 0 | 0 | 0.0 | 0.0 |
| 47. Richmond, Calif. | 0 | 1 | 0 | 0.0 | 0.0 |
| 48. San Leandro, Calif. | 0 | 1 | 0 | 0.0 | 0.0 |
| 49. Ann Arbor, Mich. | 0 | 0 | 0 | 0.0 | 0.0 |
| 50. East Orange, N. J. | 0 | 0 | 1 | 0.0 | 0.0 |
| 51. New Britain, Conn. | 0 | 1 | 0 | 0.0 | 0.0 |
| 52. Lakewood, Ohio | 0 | 0 | 0 | 0.0 | 0.0 |
| 53. Oak Park, Ill. | 0 | 0 | 0 | 0.0 | 0.0 |
| 54. Berwyn, Ill. | 0 | 0 | 0 | 0.0 | 0.0 |
| 55. Fort Smith, Ark. | 0 | 0 | 2 | 0.0 | 0.0 |
| 56. Elmira, N. Y. | 0 | 0 | 0 | 0.0 | 0.0 |
| 57. Parma, Ohio | 0 | 0 | 0 | 0.0 | 0.0 |
| 58. Alameda, Calif. | 0 | 0 | 1 | 0.0 | 0.0 |
| 59. Medford, Mass. | 0 | 0 | 1 | 0.0 | 0.0 |
| 60. Dubuque, Iowa | 0 | 0 | 0 | 0.0 | 0.0 |
| 61. Pittsfield, Mass. | 0 | 0 | 0 | 0.0 | 0.0 |
| 62. Tuscaloosa, Ala. | 0 | 0 | 1 | 0.0 | 0.0 |
| 63. Bloomfield, N. J. | 0 | 1 | 1 | 0.0 | 0.0 |
| 64. Passaic, N. J. | 0 | 1 | 0 | 0.0 | 0.0 |
| 65. Brookline, Mass. | 0 | 0 | 1 | 0.0 | 0.0 |
| 66. W. Hartford, Conn. | 0 | 0 | 1 | 0.0 | 0.0 |
| 67. Meriden, Conn. | 0 | 0 | 3 | 0.0 | 0.0 |
| 68. Woonsocket, R. I. | 0 | 1 | 0 | 0.0 | 0.0 |
| 69. Waltham, Mass. | 0 | 0 | 0 | 0.0 | 0.0 |
| 70. Norwalk, Conn. | 0 | 2 | 1 | 0.0 | 0.0 |
| 71. Hoboken, N. J. | 0 | 0 | 1 | 0.0 | 0.0 |
| 72. Fort Lauderdale, Fla. | 1 | 2 | 2 | 1.8 | 19.1 |
| All cities in this group | | | | 1.8 | 8.5 |
| 73. Johnstown, Pa. | 1 | 0 | 0 | 1.9 | 34.3 |
| 74. Lansing, Mich. | 1 | 0 | 0 | 2.1 | 12.2 |
| 75. Winston-Salem, N. C. | 1 | 0 | 0 | 2.3 | 13.2 |
| 76. Topeka, Kans. | 1 | 0 | 0 | 2.3 | 14.5 |
| 77. Pensacola, Fla. | 1 | 0 | 0 | 2.4 | 23.5 |
| 78. Springfield, Ill. | 1 | 0 | 0 | 2.5 | 14.5 |
| 79. Schenectady, N. Y. | 1 | 2 | 1 | 2.6 | 13.0 |
| 80. Charleston, W. Va. | 1 | 0 | 0 | 2.7 | 16.3 |
| 81. Decatur, Ill. | 1 | 0 | 0 | 2.9 | 16.0 |
| 82. Greenville, S. C. | 1 | 0 | 1 | 3.0 | 18.5 |
| 83. Springfield, Ohio | 1 | 0 | 1 | 3.0 | 14.0 |
| 84. Binghamton, N. Y. | 1 | 1 | 0 | 3.3 | 14.7 |
| 85. Hamilton, Ohio | 1 | 0 | 2 | 3.3 | 17.0 |
| 86. Compton, Calif. | 1 | 1 | 0 | 3.4 | 18.8 |
| 87. Sioux City, Iowa | 1 | 0 | 2 | 3.7 | 13.5 |
| 88. Abilene, Texas | 1 | 0 | 0 | 3.7 | 19.7 |
| 89. Reno, Nev. | 1 | 0 | 0 | 3.9 | 22.9 |
| 90. Aurora, Ill. | 1 | 1 | 0 | 4.1 | 21.1 |
| 91. San Mateo, Calif. | 1 | 0 | 1 | 4.2 | 19.9 |
| 92. Pomona, Calif. | 1 | 0 | 0 | 4.2 | 20.4 |
| 93. San Bernardino, Calif. | 2 | 2 | 2 | 4.6 | 28.9 |
| 94. Covington, Ky. | 1 | 0 | 1 | 4.9 | 18.5 |
| 95. New Rochelle, N. Y. | 1 | 0 | 2 | 5.0 | 16.6 |

| | One Month 1958 | 1957 | 1956 | 1958 Reg. Rate | 1958 Pop. Rate |
|---|---|---|---|---|---|
| 96. Greensboro, N. C. | 2 | 1 | 1 | 5.6 | 29.5 |
| 97. Brockton, Mass. | 1 | 0 | 0 | 5.4 | 19.1 |
| 98. Council Bluffs, Iowa | 1 | 0 | 0 | 5.7 | 22.6 |
| 99. Euclid, Ohio | 1 | 0 | 0 | 5.9 | 21.1 |
| 100. W. Palm Beach, Fla. | 2 | 1 | 1 | 6.5 | 47.1 |
| 101. Lwr. Merion Twp., Pa. | 1 | 0 | 0 | 6.5 | 20.8 |
| 102. Pontiac, Mich. | 3 | 0 | 0 | 6.7 | 44.6 |
| 103. East Chicago, Ind. | 1 | 1 | 1 | 7.0 | 20.9 |
| 104. Lake Charles, La. | 2 | 0 | 0 | 7.5 | 42.9 |
| 105. Gadsden, Ala. | 1 | 0 | 0 | 7.7 | 18.7 |
| 106. Stamford, Conn. | 2 | 0 | 1 | 8.0 | 27.2 |
| 107. Atlantic City, N. J. | 1 | 0 | 1 | 9.6 | 19.4 |
| 108. Wheeling, W. Va. | 2 | 0 | 1 | 10.2 | 40.7 |
| 109. Charleston, S. C. | 2 | 1 | 2 | 12.1 | 34.2 |
| 110. Wilkes-Barre, Pa. | 3 | 0 | 0 | 12.9 | 46.9 |
| 111. Waterloo, Iowa | 4 | 0 | 3 | 15.7 | 68.7 |
| **Group VIII (25,000 to 50,000)** | | | | | |
| 1. Las Vegas, Nev. | 0 | 0 | 0 | 0.0 | 0.0 |
| 2. Muskegon, Mich. | 0 | 0 | 1 | 0.0 | 0.0 |
| 3. Boise, Idaho | 0 | 0 | 0 | 0.0 | 0.0 |
| 4. Odessa, Texas | 0 | 0 | 1 | 0.0 | 0.0 |
| 5. Yakima, Wash. | 0 | 0 | 0 | 0.0 | 0.0 |
| **6. Birmingham, Mich.** | **0** | **1** | **0** | **0.0** | **0.0** |
| 7. Palo Alto, Calif. | 0 | 0 | 1 | 0.0 | 0.0 |
| 8. Billings, Mont. | 0 | 0 | 0 | 0.0 | 0.0 |
| 9. Tyler, Texas | 0 | 0 | 0 | 0.0 | 0.0 |
| **10. Wyandotte, Mich.** | **0** | **2** | **0** | **0.0** | **0.0** |
| 11. White Plains, N. Y. | 0 | 0 | 0 | 0.0 | 0.0 |
| 12. Vancouver, Wash. | 0 | 0 | 0 | 0.0 | 0.0 |
| 13. Midland, Texas | 0 | 0 | 0 | 0.0 | 0.0 |
| 14. High Point, N. C. | 0 | 0 | 0 | 0.0 | 0.0 |
| 15. Elkhart, Ind. | 0 | 0 | 0 | 0.0 | 0.0 |
| 16. Spartanburg, S. C. | 0 | 0 | 0 | 0.0 | 0.0 |
| 17. Poughkeepsie, N. Y. | 0 | 0 | 0 | 0.0 | 0.0 |
| **18. Kettering, Ohio** | **0** | **1** | **0** | **0.0** | **0.0** |
| 19. Tallahassee, Fla. | 0 | 0 | 0 | 0.0 | 0.0 |
| 20. Lafayette, Ind. | 0 | 0 | 0 | 0.0 | 0.0 |
| 21. Everett, Wash. | 0 | 0 | 1 | 0.0 | 0.0 |
| 22. Waukegan, Ill. | 0 | 0 | 0 | 0.0 | 0.0 |
| 23. Kokomo, Ind. | 0 | 0 | 0 | 0.0 | 0.0 |
| 24. Clearwater, Fla. | 0 | 0 | 0 | 0.0 | 0.0 |
| 25. Cheyenne, Wyo. | 0 | 0 | 0 | 0.0 | 0.0 |
| 26. Elgin, Ill. | 0 | 0 | 1 | 0.0 | 0.0 |
| 27. Casper, Wyo. | 0 | 0 | 0 | 0.0 | 0.0 |
| **28. Easton, Pa.** | **0** | **1** | **1** | **0.0** | **0.0** |
| 29. Hutchinson, Kans. | 0 | 0 | 0 | 0.0 | 0.0 |
| 30. Elyria, Ohio | 0 | 0 | 0 | 0.0 | 0.0 |
| 31. Beverly Hills, Calif. | 0 | 0 | 0 | 0.0 | 0.0 |
| **32. Wilmington, N. C.** | **0** | **2** | **0** | **0.0** | **0.0** |
| **33. Vallejo, Calif.** | **0** | **1** | **0** | **0.0** | **0.0** |
| 34. Plainfield, N. J. | 0 | 0 | 0 | 0.0 | 0.0 |
| 35. Appleton, Wis. | 0 | 0 | 0 | 0.0 | 0.0 |
| 36. Newark, Ohio | 0 | 0 | 0 | 0.0 | 0.0 |
| **37. Mt. Clemens, Mich.** | **0** | **1** | **0** | **0.0** | **0.0** |
| 38. Quincy, Ill. | 0 | 0 | 1 | 0.0 | 0.0 |
| 39. Zanesville, Ohio | 0 | 0 | 0 | 0.0 | 0.0 |
| 40. Rock Island, Ill. | 0 | 0 | 0 | 0.0 | 0.0 |
| 41. Pasadena, Texas | 0 | 0 | 0 | 0.0 | 0.0 |
| 42. La Crosse, Wis. | 0 | 0 | 0 | 0.0 | 0.0 |
| 43. Culver City, Calif. | 0 | 0 | 0 | 0.0 | 0.0 |
| 44. Hagerstown, Md. | 0 | 0 | 0 | 0.0 | 0.0 |
| 45. Lynchburg, Va. | 0 | 0 | 0 | 0.0 | 0.0 |
| 46. Wauwatosa, Wis. | 0 | 0 | 0 | 0.0 | 0.0 |
| 47. Highland Park, Mich. | 0 | 0 | 1 | 0.0 | 0.0 |
| 48. Salina, Kans. | 0 | 0 | 0 | 0.0 | 0.0 |
| 49. Rome, Ga. | 0 | 0 | 1 | 0.0 | 0.0 |
| 50. University City, Mo. | 0 | 0 | 0 | 0.0 | 0.0 |
| 51. Richmond, Ind. | 0 | 0 | 0 | 0.0 | 0.0 |
| 52. Cuyahoga Falls, Ohio | 0 | 0 | 0 | 0.0 | 0.0 |
| 53. Bellingham, Wash. | 0 | 0 | 0 | 0.0 | 0.0 |
| 54. Enid, Okla. | 0 | 0 | 0 | 0.0 | 0.0 |
| 55. Newburgh, N. Y. | 0 | 0 | 0 | 0.0 | 0.0 |
| **56. Livonia, Mich.** | **0** | **1** | **0** | **0.0** | **0.0** |
| 57. Sheboygan, Wis. | 0 | 0 | 1 | 0.0 | 0.0 |
| 58. Coral Gables, Fla. | 0 | 0 | 1 | 0.0 | 0.0 |
| 59. Marion, Ohio | 0 | 0 | 0 | 0.0 | 0.0 |
| 60. Bloomington, Ind. | 0 | 0 | 0 | 0.0 | 0.0 |
| **61. Danville, Va.** | **0** | **1** | **0** | **0.0** | **0.0** |
| 62. Champaign, Ill. | 0 | 0 | 1 | 0.0 | 0.0 |
| 63. Burlington, N. C. | 0 | 0 | 0 | 0.0 | 0.0 |
| 64. Fargo, N. D. | 0 | 0 | 0 | 0.0 | 0.0 |
| 65. East Cleveland, Ohio | 0 | 0 | 0 | 0.0 | 0.0 |
| 66. Pocatello, Idaho | 0 | 0 | 1 | 0.0 | 0.0 |
| 67. Beloit, Wis. | 0 | 0 | 0 | 0.0 | 0.0 |
| 68. Chicopee, Mass. | 0 | 0 | 2 | 0.0 | 0.0 |
| 69. Eau Claire, Wis. | 0 | 0 | 0 | 0.0 | 0.0 |
| **70. Alton, Ill.** | **0** | **2** | **0** | **0.0** | **0.0** |
| 71. Portsmouth, Ohio | 0 | 0 | 0 | 0.0 | 0.0 |
| 72. Arlington, Mass. | 0 | 0 | 0 | 0.0 | 0.0 |
| 73. Gainesville, Fla. | 0 | 0 | 0 | 0.0 | 0.0 |
| 74. Elmhurst, Ill. | 0 | 0 | 0 | 0.0 | 0.0 |
| 75. Ferndale, Mich. | 0 | 0 | 0 | 0.0 | 0.0 |
| 76. Mishawaka, Ind. | 0 | 0 | 0 | 0.0 | 0.0 |
| 77. Wausau, Wis. | 0 | 0 | 0 | 0.0 | 0.0 |
| **78. Roseville, Mich.** | **0** | **1** | **0** | **0.0** | **0.0** |
| 79. Sandusky, Ohio | 0 | 0 | 0 | 0.0 | 0.0 |
| 80. Stratford, Conn. | 0 | 0 | 0 | 0.0 | 0.0 |
| 81. Granite City, Ill. | 0 | 0 | 1 | 0.0 | 0.0 |
| 82. Daly City, Calif. | 0 | 0 | 0 | 0.0 | 0.0 |
| 83. Galesburg, Ill. | 0 | 0 | 0 | 0.0 | 0.0 |
| **84. Greenwich, Conn.** | **0** | **1** | **0** | **0.0** | **0.0** |
| **85. Danbury, Conn.** | **0** | **1** | **0** | **0.0** | **0.0** |
| 86. Steubenville, Ohio | 0 | 0 | 1 | 0.0 | 0.0 |
| **87. Bloomington, Ill.** | **0** | **1** | **0** | **0.0** | **0.0** |
| 88. Vineland, N. J. | 0 | 0 | 1 | 0.0 | 0.0 |
| 89. Rome, N. Y. | 0 | 0 | 0 | 0.0 | 0.0 |
| 90. Janesville, Wis. | 0 | 0 | 0 | 0.0 | 0.0 |
| 91. Manchester, Conn. | 0 | 0 | 1 | 0.0 | 0.0 |
| 92. Jackson, Tenn. | 0 | 0 | 0 | 0.0 | 0.0 |
| 93. Hamden, Conn. | 0 | 0 | 0 | 0.0 | 0.0 |
| 94. Newport News, Va. | 0 | 0 | 0 | 0.0 | 0.0 |
| 95. Muskogee, Okla. | 0 | 0 | 0 | 0.0 | 0.0 |
| **96. Findlay, Ohio** | **0** | **1** | **1** | **0.0** | **0.0** |
| 97. Westfield, N. J. | 0 | 0 | 0 | 0.0 | 0.0 |
| 98. Kingston, N. Y. | 0 | 0 | 0 | 0.0 | 0.0 |
| 99. West Haven, Conn. | 0 | 0 | 0 | 0.0 | 0.0 |
| **100. Monrovia, Calif.** | **0** | **2** | **1** | **0.0** | **0.0** |
| 101. Norwich, Conn. | 0 | 0 | 0 | 0.0 | 0.0 |
| **102. Burlington, Iowa** | **0** | **1** | **1** | **0.0** | **0.0** |
| 103. Chicago Heights, Ill. | 0 | 0 | 0 | 0.0 | 0.0 |
| 104. Fitchburg, Mass. | 0 | 0 | 0 | 0.0 | 0.0 |
| 105. Mason City, Iowa | 0 | 0 | 0 | 0.0 | 0.0 |
| 106. Manitowoc, Wis. | 0 | 0 | 0 | 0.0 | 0.0 |
| 107. New Kensington, Pa. | 0 | 0 | 0 | 0.0 | 0.0 |
| 108. Fair Lawn, N. J. | 0 | 0 | 0 | 0.0 | 0.0 |
| 109. St. Cloud, Minn. | 0 | 0 | 0 | 0.0 | 0.0 |
| 110. Rock Hill, S. C. | 0 | 0 | 1 | 0.0 | 0.0 |
| 111. Kearny, N. J. | 0 | 0 | 1 | 0.0 | 0.0 |
| 112. St. Louis Park, Minn. | 0 | 0 | 0 | 0.0 | 0.0 |
| 113. Hazel Park, Mich. | 0 | 0 | 0 | 0.0 | 0.0 |
| 114. Petersburg, Va. | 0 | 0 | 0 | 0.0 | 0.0 |
| **115. Torrington, Conn.** | **0** | **1** | **0** | **0.0** | **0.0** |
| 116. Hackensack, N. J. | 0 | 0 | 0 | 0.0 | 0.0 |
| 117. National City, Calif. | 0 | 0 | 0 | 0.0 | 0.0 |
| 118. Bangor, Me. | 0 | 0 | 0 | 0.0 | 0.0 |
| 119. Fairfield, Conn. | 0 | 0 | 0 | 0.0 | 0.0 |
| 120. Teaneck, N. J. | 0 | 0 | 0 | 0.0 | 0.0 |
| 121. Greenville, Miss. | 0 | 0 | 0 | 0.0 | 0.0 |
| 122. Milford, Conn. | 0 | 0 | 0 | 0.0 | 0.0 |
| 123. Rahway, N. J. | 0 | 0 | 1 | 0.0 | 0.0 |
| 124. Freeport, Ill. | 0 | 0 | 0 | 0.0 | 0.0 |
| 125. Richfield, Minn. | 0 | 0 | 0 | 0.0 | 0.0 |
| 126. Shaker Heights, Ohio | 0 | 0 | 0 | 0.0 | 0.0 |
| 127. Montclair, N. J. | 0 | 0 | 0 | 0.0 | 0.0 |
| 128. New London, Conn. | 0 | 0 | 0 | 0.0 | 0.0 |
| 129. Burlington, Vt. | 0 | 0 | 0 | 0.0 | 0.0 |
| 130. Minot, N. D. | 0 | 0 | 0 | 0.0 | 0.0 |
| **131. Superior, Wis.** | **0** | **1** | **1** | **0.0** | **0.0** |
| **132. Temple, Texas** | **0** | **2** | **1** | **0.0** | **0.0** |
| 133. Bristol, Conn. | 0 | 0 | 0 | 0.0 | 0.0 |
| 134. Webster Groves, Mo. | 0 | 0 | 0 | 0.0 | 0.0 |
| 135. Richland, Wash. | 0 | 0 | 0 | 0.0 | 0.0 |
| 136. Grand Forks, N. D. | 0 | 0 | 0 | 0.0 | 0.0 |
| 137. Concord, N. H. | 0 | 0 | 0 | 0.0 | 0.0 |
| 138. Middletown, Conn. | 0 | 0 | 0 | 0.0 | 0.0 |
| 139. Denton, Texas | 0 | 0 | 1 | 0.0 | 0.0 |
| 140. Urbana, Ill. | 0 | 0 | 0 | 0.0 | 0.0 |
| 141. Selma, Ala. | 0 | 0 | 0 | 0.0 | 0.0 |
| 142. Winona, Minn. | 0 | 0 | 1 | 0.0 | 0.0 |
| **143. Revere, Mass.** | **0** | **1** | **1** | **0.0** | **0.0** |
| 144. Mt. Lebanon, Pa. | 0 | 0 | 0 | 0.0 | 0.0 |
| 145. Annapolis, Md. | 0 | 0 | 0 | 0.0 | 0.0 |
| 146. Park Forest, Ill. | 0 | 0 | 0 | 0.0 | 0.0 |
| All cities in this group | | | | 1.2 | 5.7 |
| 147. Modesto, Calif. | 1 | 0 | 0 | 3.2 | 35.5 |
| 148. Mansfield, Ohio | 1 | 0 | 1 | 3.9 | 27.5 |
| 149. St. Clair Shores, Mich. | 1 | 0 | 1 | 4.8 | 24.9 |
| 150. Great Falls, Mont. | 1 | 0 | 1 | 5.3 | 25.8 |
| 151. Owensboro, Ky. | 1 | 0 | 0 | 5.9 | 30.8 |
| **152. Moline, Ill.** | **1** | **2** | **0** | **6.2** | **31.6** |
| 153. Aurora, Colo. | 1 | 0 | 0 | 6.4 | 48.0 |
| 154. Oshkosh, Wis. | 1 | 0 | 0 | 6.5 | 27.3 |
| 155. Rapid City, S. D. | 1 | 0 | 0 | 6.6 | 30.1 |
| 156. Rochester, Minn. | 1 | 0 | 0 | 6.8 | 38.5 |
| 157. Hamtramck, Mich. | 1 | 1 | 1 | 6.9 | 26.1 |
| 158. Daytona Beach, Fla. | 1 | 1 | 0 | 7.1 | 33.1 |
| 159. East Hartford, Conn. | 1 | 0 | 0 | 7.2 | 31.1 |
| 160. Maywood, Ill. | 1 | 0 | 1 | 7.6 | 41.4 |
| 161. Linden, N. J. | 1 | 0 | 1 | 8.0 | 32.8 |
| 162. West Orange, N. J. | 1 | 1 | 0 | 8.4 | 35.0 |
| 163. Fond du Lac, Wis. | 1 | 0 | 0 | 8.5 | 36.1 |
| 164. Walla Walla, Wash. | 1 | 0 | 0 | 8.7 | 47.1 |
| 165. Lockport, N. Y. | 1 | 0 | 0 | 8.8 | 44.3 |
| 166. West Covina, Calif. | 1 | 1 | 0 | 9.0 | 29.3 |
| **167. Florence, S. C.** | **1** | **2** | **0** | **9.6** | **42.1** |
| 168. Sumter, S. C. | 1 | 0 | 0 | 10.3 | 47.6 |
| 169. Oak Ridge, Tenn. | 1 | 0 | 1 | 11.3 | 42.0 |
| 170. Lincoln Park, Mich. | 2 | 0 | 0 | 13.7 | 54.1 |
| 171. Barberton, Ohio | 2 | 1 | 0 | 14.9 | 69.0 |
| 172. Warwick, R. I. | 3 | 0 | 0 | 19.8 | 83.7 |
| **Group IX (10,000 to 25,000)** | | | | | |
| **1. Hollywood, Fla.** | **0** | **1** | **0** | **0.0** | **0.0** |
| 2. Kingsport, Tenn. | 0 | 0 | 0 | 0.0 | 0.0 |
| 3. Robbinsdale, Minn. | 0 | 0 | 0 | 0.0 | 0.0 |
| 4. Medford, Ore. | 0 | 0 | 0 | 0.0 | 0.0 |
| 5. Napa, Calif. | 0 | 0 | 0 | 0.0 | 0.0 |
| 6. Benton Harbor, Mich. | 0 | 0 | 0 | 0.0 | 0.0 |
| **7. Victoria, Texas** | **0** | **1** | **0** | **0.0** | **0.0** |
| 8. Butler, Pa. | 0 | 0 | 0 | 0.0 | 0.0 |
| 9. South Euclid, Ohio | 0 | 0 | 0 | 0.0 | 0.0 |
| 10. Klamath Falls, Ore. | 0 | 0 | 0 | 0.0 | 0.0 |
| **11. Ypsilanti, Mich.** | **0** | **1** | **0** | **0.0** | **0.0** |
| 12. Boulder, Colo. | 0 | 0 | 0 | 0.0 | 9.0 |
| 13. Holland, Mich. | 0 | 0 | 0 | 0.0 | 0.0 |
| 14. Fort Myers, Fla. | 0 | 0 | 0 | 0.0 | 0.0 |
| 15. Greeley, Colo. | 0 | 0 | 0 | 0.0 | 0.0 |
| 16. Lake Worth, Fla. | 0 | 0 | 0 | 0.0 | 0.0 |
| 17. Monroe, Mich. | 0 | 0 | 0 | 0.0 | 0.0 |
| 18. Greensburg, Pa. | 0 | 0 | 0 | 0.0 | 0.0 |
| 19. Homewood, Ala. | 0 | 0 | 0 | 0.0 | 0.0 |
| 20. Waukesha, Wis. | 0 | 0 | 1 | 0.0 | 0.0 |
| 21. Yuma, Ariz. | 0 | 0 | 0 | 0.0 | 0.0 |
| 22. Austin, Minn. | 0 | 0 | 0 | 0.0 | 0.0 |
| 23. Shorewood, Wis. | 0 | 0 | 0 | 0.0 | 0.0 |
| 24. Ponca City, Okla. | 0 | 0 | 0 | 0.0 | 0.0 |
| 25. Longview, Wash. | 0 | 0 | 0 | 0.0 | 0.0 |
| 26. Niles, Mich. | 0 | 0 | 0 | 0.0 | 0.0 |
| **27. Pampa, Texas** | **0** | **1** | **0** | **0.0** | **0.0** |
| 28. Bell, Calif. | 0 | 0 | 0 | 0.0 | 0.0 |
| 29. Uniontown, Pa. | 0 | 0 | 0 | 0.0 | 0.0 |
| 30. Statesville, N. C. | 0 | 0 | 0 | 0.0 | 0.0 |
| 31. Lawrence, Kans. | 0 | 0 | 0 | 0.0 | 0.0 |
| 32. La Porte, Ind. | 0 | 0 | 0 | 0.0 | 0.0 |
| 33. Kinston, N. C. | 0 | 0 | 0 | 0.0 | 0.0 |
| 34. Morristown, N. J. | 0 | 0 | 0 | 0.0 | 0.0 |
| 35. Lufkin, Texas | 0 | 0 | 0 | 0.0 | 0.0 |
| 36. Sherman, Texas | 0 | 0 | 0 | 0.0 | 0.0 |
| 37. Orange, Calif. | 0 | 0 | 0 | 0.0 | 0.0 |
| 38. Fremont, Ohio | 0 | 0 | 1 | 0.0 | 0.0 |
| 39. Kenmore, N. Y. | 0 | 0 | 0 | 0.0 | 0.0 |
| 40. Bloomington, Minn. | 0 | 0 | 0 | 0.0 | 0.0 |
| 41. Whitfish Bay, Wis. | 0 | 0 | 0 | 0.0 | 0.0 |
| 42. Ocala, Fla. | 0 | 0 | 0 | 0.0 | 0.0 |
| 43. La Grange, Ill. | 0 | 0 | 0 | 0.0 | 0.0 |
| **44. Carlsbad, N. M.** | **0** | **2** | **1** | **0.0** | **0.0** |
| 45. Floral Park, N. Y. | 0 | 0 | 0 | 0.0 | 0.0 |
| 46. Wooster, Ohio | 0 | 0 | 0 | 0.0 | 0.0 |
| 47. Great Bend, Kans. | 0 | 0 | 0 | 0.0 | 0.0 |
| 48. Plainview, Texas | 0 | 0 | 0 | 0.0 | 0.0 |
| 49. Bismarck, N. D. | 0 | 0 | 0 | 0.0 | 0.0 |
| 50. Helena, Mont. | 0 | 0 | 0 | 0.0 | 0.0 |
| 51. Meadville, Pa. | 0 | 0 | 0 | 0.0 | 0.0 |
| 52. Traverse City, Mich. | 0 | 0 | 0 | 0.0 | 0.0 |
| 53. Borger, Texas | 0 | 0 | 0 | 0.0 | 0.0 |
| 54. Tiffin, Ohio | 0 | 0 | 0 | 0.0 | 0.0 |
| 55. Port Chester, N. Y. | 0 | 0 | 0 | 0.0 | 0.0 |
| 56. Frederick, Md. | 0 | 0 | 0 | 0.0 | 0.0 |
| 57. Westport, Conn. | 0 | 0 | 1 | 0.0 | 0.0 |
| 58. Owosso, Mich. | 0 | 0 | 0 | 0.0 | 0.0 |
| 59. Goshen, Ind. | 0 | 0 | 0 | 0.0 | 0.0 |
| 60. Edina, Minn. | 0 | 0 | 0 | 0.0 | 0.0 |
| 61. Jeffersonville, Ind. | 0 | 0 | 0 | 0.0 | 0.0 |
| 62. Sedalia, Mo. | 0 | 0 | 0 | 0.0 | 0.0 |
| 63. Hibbing, Minn. | 0 | 0 | 0 | 0.0 | 0.0 |
| 64. Peru, Ind. | 0 | 0 | 0 | 0.0 | 0.0 |
| **65. Monterey, Calif.** | **0** | **1** | **0** | **0.0** | **0.0** |
| 66. Denison, Texas | 0 | 0 | 0 | 0.0 | 0.0 |
| **67. East Haven, Conn.** | **0** | **1** | **0** | **0.0** | **0.0** |
| 68. Hanford, Calif. | 0 | 0 | 0 | 0.0 | 0.0 |
| 69. North Platte, Neb. | 0 | 0 | 0 | 0.0 | 0.0 |
| 70. Bristol, Pa. | 0 | 0 | 0 | 0.0 | 0.0 |
| 71. Ashland, Ohio | 0 | 0 | 0 | 0.0 | 0.0 |
| 72. Corvallis, Ore. | 0 | 0 | 1 | 0.0 | 0.0 |
| 73. Valparaiso, Ind. | 0 | 0 | 0 | 0.0 | 0.0 |
| 74. Caldwell, Idaho | 0 | 0 | 0 | 0.0 | 0.0 |
| 75. Griffin, Ga. | 0 | 0 | 0 | 0.0 | 0.0 |
| 76. Pittsburg, Kans. | 0 | 0 | 0 | 0.0 | 0.0 |
| 77. Frankfort, Ind. | 0 | 0 | 0 | 0.0 | 0.0 |
| 78. Marietta, Ohio | 0 | 0 | 0 | 0.0 | 0.0 |
| **79. Maple Heights, Ohio** | **0** | **1** | **1** | **0.0** | **0.0** |
| 80. Wheaton, Ill. | 0 | 0 | 0 | 0.0 | 0.0 |
| 81. Kennewick, Wash. | 0 | 0 | 0 | 0.0 | 0.0 |
| 82. Highland Park, Ill. | 0 | 0 | 1 | 0.0 | 0.0 |
| **83. Reidsville, N. C.** | **0** | **1** | **0** | **0.0** | **0.0** |
| 84. Aberdeen, S. D. | 0 | 0 | 0 | 0.0 | 0.0 |
| 85. Streator, Ill. | 0 | 0 | 0 | 0.0 | 0.0 |
| 86. Woodland, Calif. | 0 | 0 | 0 | 0.0 | 0.0 |
| 87. W. Springfield, Mass. | 0 | 0 | 0 | 0.0 | 0.0 |
| 88. Xenia, Ohio | 0 | 0 | 0 | 0.0 | 0.0 |
| 89. Wisconsin Rpds., Wis. | 0 | 0 | 0 | 0.0 | 0.0 |
| 90. Martinsburg, W. Va. | 0 | 0 | 0 | 0.0 | 0.0 |
| 91. Cranford, N. J. | 0 | 0 | 0 | 0.0 | 0.0 |
| 92. Mt. Vernon, Ill. | 0 | 0 | 0 | 0.0 | 0.0 |
| 93. Albert Lea, Minn. | 0 | 0 | 0 | 0.0 | 0.0 |
| 94. Texarkana, Ark. | 0 | 0 | 0 | 0.0 | 0.0 |
| 95. Cape Girardeau, Mo. | 0 | 0 | 0 | 0.0 | 0.0 |
| 96. Emporia, Kans. | 0 | 0 | 0 | 0.0 | 0.0 |
| 97. Johnson City, N. Y. | 0 | 0 | 0 | 0.0 | 0.0 |
| 98. Connersville, Ind. | 0 | 0 | 0 | 0.0 | 0.0 |
| 99. Hillside, N. J. | 0 | 0 | 0 | 0.0 | 0.0 |
| 100. Bellevue, Pa. | 0 | 0 | 0 | 0.0 | 0.0 |
| 101. Sterling, Ill. | 0 | 0 | 0 | 0.0 | 0.0 |
| 102. Port Angeles, Wash. | 0 | 0 | 0 | 0.0 | 0.0 |
| 103. Calumet City, Ill. | 0 | 0 | 0 | 0.0 | 0.0 |
| 104. Berkley, Mich. | 0 | 0 | 0 | 0.0 | 0.0 |
| 105. East Lansing, Mich. | 0 | 0 | 0 | 0.0 | 0.0 |
| 106. Stillwater, Okla. | 0 | 0 | 0 | 0.0 | 0.0 |
| **107. Alpena, Mich.** | **0** | **1** | **1** | **0.0** | **0.0** |
| 108. Highland Park, Texas | 0 | 0 | 0 | 0.0 | 0.0 |
| **109. St. Augustine, Fla.** | **0** | **1** | **0** | **0.0** | **0.0** |
| 110. Pittsburg, Calif. | 0 | 0 | 0 | 0.0 | 0.0 |
| **111. New Bern, N. C.** | **0** | **1** | **0** | **0.0** | **0.0** |

| | One Month 1958 | 1957 | 1956 | 1958 Reg. Rate | 1958 Pop. Rate |
|---|---|---|---|---|---|
| 112. Newport Beach, Calif. | 0 | 0 | 0 | 0.0 | 0.0 |
| 113. Wallingford, Conn. | 0 | 0 | 0 | 0.0 | 0.0 |
| 114. El Dorado, Kans. | 0 | 0 | 0 | 0.0 | 0.0 |
| 115. Greenwood, Miss. | 0 | 0 | 0 | 0.0 | 0.0 |
| **116. Arkansas City, Kans.** | **0** | **1** | **0** | **0.0** | **0.0** |
| 117. Massena, N. Y. | 0 | 0 | 0 | 0.0 | 0.0 |
| 118. Suffolk, Va. | 0 | 0 | 0 | 0.0 | 0.0 |
| 119. Cedar Falls, Iowa | 0 | 0 | 1 | 0.0 | 0.0 |
| 120. Brainerd, Minn. | 0 | 0 | 0 | 0.0 | 0.0 |
| 121. Niles, Ohio | 0 | 0 | 0 | 0.0 | 0.0 |
| 122. North Miami, Fla. | 0 | 0 | 0 | 0.0 | 0.0 |
| 123. Elmwood Park, Ill. | 0 | 0 | 0 | 0.0 | 0.0 |
| 124. McAlester, Okla. | 0 | 0 | 0 | 0.0 | 0.0 |
| 125. Newton, Kans. | 0 | 0 | 0 | 0.0 | 0.0 |
| 126. Stevens Point, Wis. | 0 | 0 | 0 | 0.0 | 0.0 |
| 127. Muskegon Hts., Mich. | 0 | 0 | 0 | 0.0 | 0.0 |
| 128. Antioch, Calif. | 0 | 0 | 0 | 0.0 | 0.0 |
| 129. Canton, Ill. | 0 | 0 | 0 | 0.0 | 0.0 |
| 130. Brookfield, Ill. | 0 | 0 | 0 | 0.0 | 0.0 |
| 131. Mt. Pleasant, Mich. | 0 | 0 | 1 | 0.0 | 0.0 |
| 132. Pasco, Wash. | 0 | 0 | 0 | 0.0 | 0.0 |
| 133. Corona, Calif. | 0 | 0 | 0 | 0.0 | 0.0 |
| 134. Owatonna, Minn. | 0 | 0 | 0 | 0.0 | 0.0 |
| 135. South Portland, Me. | 0 | 0 | 0 | 0.0 | 0.0 |
| 136. Faribault, Minn. | 0 | 0 | 0 | 0.0 | 0.0 |
| 137. Norfolk, Neb. | 0 | 0 | 0 | 0.0 | 0.0 |
| 138. Boone, Iowa | 0 | 0 | 0 | 0.0 | 0.0 |
| 139. Rocky River, Ohio | 0 | 0 | 0 | 0.0 | 0.0 |
| 140. Attleboro, Mass. | 0 | 0 | 0 | 0.0 | 0.0 |
| 141. Watertown, Wis. | 0 | 0 | 0 | 0.0 | 0.0 |
| 142. Astoria, Ore. | 0 | 0 | 1 | 0.0 | 0.0 |
| 143. North Adams, Mass. | 0 | 0 | 0 | 0.0 | 0.0 |
| 144. East Moline, Ill. | 0 | 0 | 0 | 0.0 | 0.0 |
| 145. Bristol, Va. | 0 | 0 | 0 | 0.0 | 0.0 |
| 146. Fergus Falls, Minn. | 0 | 0 | 0 | 0.0 | 0.0 |
| **147. So. Milwaukee, Wis.** | **0** | **2** | **0** | **0.0** | **0.0** |
| 148. South Orange, N. J. | 0 | 0 | 0 | 0.0 | 0.0 |
| 149. Lamesa, Texas | 0 | 0 | 0 | 0.0 | 0.0 |
| 150. Winfield, Kans. | 0 | 0 | 0 | 0.0 | 0.0 |
| 151. Naugatuck, Conn. | 0 | 0 | 0 | 0.0 | 0.0 |
| 152. Mamaroneck, N. Y. | 0 | 0 | 0 | 0.0 | 0.0 |
| 153. St. Joseph, Mich. | 0 | 0 | 0 | 0.0 | 0.0 |
| 154. Hawthorne, N. J. | 0 | 0 | 0 | 0.0 | 0.0 |
| 155. Sault Ste. Marie, Mich. | 0 | 0 | 0 | 0.0 | 0.0 |
| **156. Wethersfield, Conn.** | **0** | **1** | **1** | **0.0** | **0.0** |
| 157. Villa Park, Ill. | 0 | 0 | 1 | 0.0 | 0.0 |
| 158. Winnetka, Ill. | 0 | 0 | 0 | 0.0 | 0.0 |
| 159. Albany, Calif. | 0 | 0 | 0 | 0.0 | 0.0 |
| 160. Windham, Conn. | 0 | 0 | 0 | 0.0 | 0.0 |
| 161. Conneaut, Ohio | 0 | 0 | 0 | 0.0 | 0.0 |
| 162. Garden City, Kans. | 0 | 0 | 0 | 0.0 | 0.0 |
| 163. Needham, Mass. | 0 | 0 | 1 | 0.0 | 0.0 |
| 164. Rialto, Calif. | 0 | 0 | 0 | 0.0 | 0.0 |
| 165. Marshfield, Wis. | 0 | 0 | 0 | 0.0 | 0.0 |
| 166. Livermore, Calif. | 0 | 0 | 0 | 0.0 | 0.0 |
| 167. Gardner, Mass. | 0 | 0 | 0 | 0.0 | 0.0 |
| 168. Hopewell, Va. | 0 | 0 | 0 | 0.0 | 0.0 |
| 169. Escanaba, Mich. | 0 | 0 | 0 | 0.0 | 0.0 |
| 170. Beaver Dam, Wis. | 0 | 0 | 0 | 0.0 | 0.0 |
| 171. Rye, N. Y. | 0 | 0 | 0 | 0.0 | 0.0 |
| 172. State College, Pa. | 0 | 0 | 0 | 0.0 | 0.0 |
| 173. Mitchell, S. D. | 0 | 0 | 0 | 0.0 | 0.0 |
| 174. Virginia, Minn. | 0 | 0 | 0 | 0.0 | 0.0 |
| 175. Ansonia, Conn. | 0 | 0 | 0 | 0.0 | 0.0 |
| 176. Van Wert, Ohio | 0 | 0 | 0 | 0.0 | 0.0 |
| 177. Du Bois, Pa. | 0 | 0 | 0 | 0.0 | 0.0 |
| 178. Darien, Conn. | 0 | 0 | 0 | 0.0 | 0.0 |
| 179. Logan, Utah | 0 | 0 | 0 | 0.0 | 0.0 |
| 180. River Rouge, Mich. | 0 | 0 | 2 | 0.0 | 0.0 |
| 181. Bowling Green, Ohio | 0 | 0 | 0 | 0.0 | 0.0 |
| 182. Vernon, Conn. | 0 | 0 | 0 | 0.0 | 0.0 |
| 183. Mansfield, Conn. | 0 | 0 | 1 | 0.0 | 0.0 |
| 184. Central Falls, R. I. | 0 | 0 | 0 | 0.0 | 0.0 |
| 185. Grosse Pt. Wds., Mich. | 0 | 0 | 0 | 0.0 | 0.0 |
| 186. Albion, Mich. | 0 | 0 | 0 | 0.0 | 0.0 |
| 187. Dyersburg, Tenn. | 0 | 0 | 0 | 0.0 | 0.0 |
| 188. Bellefontaine, Ohio | 0 | 0 | 0 | 0.0 | 0.0 |
| 189. University Hts., Ohio | 0 | 0 | 0 | 0.0 | 0.0 |
| 190. Los Alamos, N. M. | 0 | 0 | 0 | 0.0 | 0.0 |
| 191. Ecorse, Mich. | 0 | 0 | 0 | 0.0 | 0.0 |
| 192. Red Wing, Minn. | 0 | 0 | 0 | 0.0 | 0.0 |
| 193. Hornell, N. Y. | 0 | 0 | 0 | 0.0 | 0.0 |
| 194. Charles City, Iowa | 0 | 0 | 0 | 0.0 | 0.0 |
| **195. River Forest, Ill.** | **0** | **1** | **0** | **0.0** | **0.0** |
| 196. Bemidji, Minn. | 0 | 0 | 0 | 0.0 | 0.0 |
| 197. Windsor, Conn. | 0 | 0 | 1 | 0.0 | 0.0 |
| 198. Cadillac, Mich. | 0 | 0 | 0 | 0.0 | 0.0 |
| 199. North Chicago, Ill. | 0 | 0 | 1 | 0.0 | 0.0 |
| **200. Grosse Pte. Pk., Mich.** | **0** | **1** | **0** | **0.0** | **0.0** |
| **201. Cudahy, Wis.** | **0** | **1** | **0** | **0.0** | **0.0** |
| 202. Swampscott, Mass. | 0 | 0 | 0 | 0.0 | 0.0 |
| 203. Two Rivers, Wis. | 0 | 0 | 0 | 0.0 | 0.0 |
| 204. Niles, Ill. | 0 | 0 | 0 | 0.0 | 0.0 |
| 205. Milford, Mass. | 0 | 0 | 0 | 0.0 | 0.0 |
| 206. Pacific Grove, Calif. | 0 | 0 | 0 | 0.0 | 0.0 |
| 207. Bellaire, Ohio | 0 | 0 | 0 | 0.0 | 0.0 |
| 208. Winchester, Conn. | 0 | 0 | 0 | 0.0 | 0.0 |
| 209. La Salle, Ill. | 0 | 0 | 0 | 0.0 | 0.0 |
| 210. Branford, Conn. | 0 | 0 | 0 | 0.0 | 0.0 |
| 211. West Lafayette, Ind. | 0 | 0 | 0 | 0.0 | 0.0 |
| 212. Moscow, Idaho | 0 | 0 | 0 | 0.0 | 0.0 |
| 213. Stoughton, Mass. | 0 | 0 | 0 | 0.0 | 0.0 |
| 214. Groton, Conn. | 0 | 0 | 0 | 0.0 | 0.0 |
| **215. Fort Thomas, Ky.** | **0** | **2** | **0** | **0.0** | **0.0** |
| **216. Beacon, N. Y.** | **0** | **1** | **0** | **0.0** | **0.0** |
| 217. Southington, Conn. | 0 | 0 | 0 | 0.0 | 0.0 |
| 218. Fairfield, Ala. | 0 | 0 | 0 | 0.0 | 0.0 |
| 219. Ridgefield Pk., N. J. | 0 | 0 | 0 | 0.0 | 0.0 |
| **220. Derby, Conn.** | **0** | **1** | **0** | **0.0** | **0.0** |
| 221. Ashland, Wis. | 0 | 0 | 0 | 0.0 | 0.0 |
| 222. Takoma Park, Md. | 0 | 0 | 0 | 0.0 | 0.0 |
| 223. Amherst, Mass. | 0 | 0 | 0 | 0.0 | 0.0 |
| 224. Killingly, Conn. | 0 | 0 | 0 | 0.0 | 0.0 |
| 225. Donora, Pa. | 0 | 0 | 0 | 0.0 | 0.0 |
| 226. Watertown, Conn. | 0 | 0 | 0 | 0.0 | 0.0 |
| 227. Stonington, Conn. | 0 | 0 | 0 | 0.0 | 0.0 |
| 228. Enfield, Conn. | 0 | 0 | 1 | 0.0 | 0.0 |
| All cities in this group | | | | 0.9 | 5.0 |
| 229. Santa Cruz, Calif. | 1 | 0 | 1 | 6.7 | 52.6 |
| **230. Salisbury, N. C.** | **1** | **3** | **0** | **8.0** | **57.1** |
| 231. Garland, Texas | 1 | 0 | 0 | 8.3 | 53.8 |
| 232. Lodi, Calif. | 1 | 0 | 0 | 8.7 | 69.4 |
| 233. Ames, Iowa | 1 | 0 | 0 | 11.1 | 51.1 |
| 234. Wilmette, Ill. | 1 | 0 | 0 | 12.5 | 58.5 |
| 235. Leominster, Mass. | 1 | 0 | 0 | 13.3 | 48.4 |
| 236. Las Cruces, N. M. | 1 | 0 | 1 | 13.6 | 74.1 |
| 237. Moorhead, Minn. | 1 | 0 | 0 | 14.1 | 67.4 |
| 238. Monroe, N. C. | 1 | 0 | 1 | 14.5 | 114.3 |
| 239. El Cerrito, Calif. | 1 | 0 | 0 | 16.9 | 50.8 |
| 240. Atchison, Kans. | 1 | 0 | 0 | 17.8 | 93.8 |
| 241. Brawley, Calif. | 1 | 0 | 0 | 18.1 | 89.6 |
| 242. Shelton, Conn. | 4 | 0 | 0 | 74.5 | 292.7 |
| **CANADIAN CITIES** | | | | | |
| Hamilton, Ont. | 0 | 4 | 2 | — | 0.0 |
| Calgary, Alta. | 0 | 0 | 0 | — | 0.0 |
| Medicine Hat, Alta. | 0 | 0 | 0 | — | 0.0 |
| Red Deer, Alta. | 0 | 0 | 0 | — | 0.0 |
| Edmonton, Alta. | 1 | 0 | 1 | — | 7.5 |
| Montreal, Que. | 10 | 14 | 6 | — | 11.7 |
| Toronto, Ont. | 13 | 12 | 5 | — | 12.0 |
| Vancouver, B. C. | 4 | 2 | 2 | — | 13.9 |
| Lethbridge, Alta. | 1 | 0 | 0 | — | 52.4 |

# TRAFFIC DEATHS—STATE RECORDS

Deaths are reported by state traffic authorities.

All figures are preliminary. To insure proper comparisons, 1957 and 1956 figures cover the same reporting period as those for 1958.

Population Rate: U. S. population rate is the estimated annual number of deaths per 100,000 population, assuming that deaths for the rest of the year will follow the normal seasonal pattern. State population rate is the estimated annual number of deaths per 100,000 population, assuming that the monthly average of deaths will remain at the present average for the rest of the year. Population rates are based on July 1, 1957 population estimates, U. S. Bureau of the Census, Washington, D. C.

States shown in heavy type have improved in 1958 compared with 1957, or showed no change.

Mileage Rate: The number of deaths per 100 million vehicle miles of travel.

*Indicates January, 1958 report not received as of deadline, February 25.

| | Months Reported | Deaths Identical Periods 1958 | 1957 | 1956 | % Changes 1957 to 1958 | 1956 to 1958 | 1958 Pop. Rate | 1958 Mile. Rate |
|---|---|---|---|---|---|---|---|---|
| TOTAL U.S. | 1 | 2,730 | 2,870 | 2,954 | — 5% | — 8% | 21.4 | .... |
| Ala. | 1 | 51 | 49 | 66 | + 4% | — 23% | 19.4 | .... |
| Ariz. | 1 | 39 | 43 | 49 | — 9% | — 20% | 41.2 | .... |
| Ark. | 1 | 26 | 50 | 37 | — 48% | — 30% | 17.6 | .... |
| Calif. | 1 | 243 | 261 | 229 | — 7% | + 6% | 21.0 | .... |
| Colo. | 1 | 22 | 20 | 25 | + 10% | — 12% | 15.8 | .... |
| Conn. | 1 | 12 | 18 | 20 | — 33% | — 40% | 6.4 | .... |
| Del. | 1 | 4 | 7 | 5 | — 43% | — 20% | 11.0 | .... |
| D. of C. | 1 | 2 | 5 | 7 | — 60% | — 71% | 2.9 | .... |
| Fla. | 1 | 110 | 105 | 93 | + 5% | + 18% | 32.2 | .... |
| Ga. | 1 | 66 | 57 | 90 | + 16% | — 27% | 21.0 | .... |
| Idaho | 1 | 14 | 12 | 15 | + 17% | — 7% | 26.3 | .... |
| Ill. | 1 | 113 | 165 | 126 | — 32% | — 10% | 14.1 | .... |
| Ind. | 1 | 65 | 81 | 101 | — 20% | — 36% | 17.2 | .... |
| Ia. | 1 | 52 | 34 | 62 | + 53% | — 16% | 22.3 | .... |
| Kans. | 1 | 33 | 33 | 44 | 0% | — 25% | 18.5 | .... |
| Ky. | 1 | 42 | 63 | 51 | — 33% | — 18% | 16.6 | .... |
| La. | 1 | 62 | 61 | 47 | + 2% | + 32% | 24.3 | .... |
| Me. | 1 | 13 | 7 | 9 | + 86% | + 44% | 16.5 | .... |
| Md. | 1 | 31 | 29 | 49 | + 7% | — 37% | 12.8 | .... |
| Mass. | 1 | 43 | 21 | 40 | +105% | + 8% | 10.6 | .... |
| Mich. | 1 | 87 | 98 | 143 | — 11% | — 39% | 13.4 | .... |
| Minn. | 1 | 46 | 46 | 21 | 0% | +119% | 16.6 | .... |
| Miss. | 1 | 27 | 32 | 52 | — 16% | — 48% | 14.8 | .... |
| Mo. | 1 | 47 | 74 | 76 | — 36% | — 38% | 13.3 | .... |
| Mont. | 1 | 20 | 8 | 14 | +150% | + 43% | 36.0 | .... |
| Neb. | 1 | 20 | 9 | 24 | +122% | — 17% | 16.3 | .... |
| Nev. | 1 | 8 | 10 | 5 | — 20% | + 60% | 36.0 | .... |
| N. H. | 1 | 2 | 6 | 10 | — 67% | — 80% | 4.2 | .... |
| N. J. | 1 | 71 | 62 | 59 | + 15% | + 20% | 15.1 | .... |
| N. M. | 1 | 37 | 31 | 23 | + 19% | + 61% | 53.5 | .... |
| N. Y. | 1 | 194 | 145 | 153 | + 34% | + 27% | 14.7 | .... |
| N. C. | 1 | 53 | 97 | 90 | — 45% | — 41% | 14.1 | .... |
| N. D. | 1 | 3 | 2 | 5 | + 50% | — 40% | 5.6 | .... |
| Ohio | 1 | 140 | 140 | 149 | 0% | — 6% | 18.3 | .... |
| Okla. | 1 | 41 | 41 | 53 | 0% | — 23% | 21.6 | .... |
| Ore. | 1 | 31 | 27 | 27 | + 15% | + 15% | 21.0 | .... |
| Pa. | | * | 126 | 143 | | | | .... |
| R. I. | 1 | 7 | 4 | 5 | + 75% | + 40% | 10.2 | .... |
| S. C. | 1 | 47 | 59 | 47 | — 20% | 0% | 23.8 | .... |
| S. D. | 1 | 23 | 9 | 14 | +156% | + 64% | 39.3 | .... |
| Tenn. | 1 | 58 | 55 | 48 | + 5% | + 21% | 20.1 | .... |
| Texas | 1 | 142 | 178 | 172 | — 20% | — 17% | 18.6 | .... |
| Utah | 1 | 8 | 16 | 22 | — 50% | — 64% | 11.3 | .... |
| Vt. | 1 | 3 | 7 | 5 | — 57% | — 40% | 9.6 | .... |
| Va. | 1 | 63 | 70 | 49 | — 10% | + 29% | 19.9 | .... |
| Wash. | 1 | 51 | 34 | 34 | + 50% | + 50% | 22.5 | .... |
| W. Va. | 1 | 30 | 32 | 22 | — 6% | + 36% | 18.2 | .... |
| Wis. | 1 | 47 | 62 | 61 | — 24% | — 23% | 14.6 | .... |
| Wyo. | 1 | 10 | 9 | 13 | + 11% | — 23% | 38.0 | .... |
| **CANADIAN PROVINCES** | | | | | | | | |
| Alta. | 1 | 18 | 11 | 9 | + 64% | +100% | 23.0 | .... |

## MOTOR-VEHICLE DEATHS AND INJURIES BY STATES — 1957 AND 1956

Twenty-three states reported more injuries during the first eleven months of 1957 than for the same period last year. Ten states and the District of Columbia recorded fewer injuries, and one state showed no change.

For eleven months or less 47 states and the District of Columbia reported. Thirty-two states tallied more injuries. Fourteen states and the District of Columbia counted fewer injuries, and one state showed no change.

For the entire reporting period, 17 states and the District of Columbia reported more traffic deaths, and 30 states showed a decrease.

### MOTOR-VEHICLE DEATHS AND INJURIES BY STATES
1957 and 1956

| Months Reported | Deaths†† | | Injuries†† | | % Changes 1956 to 1957 | | 1957 Ratio of Injuries to Deaths |
|---|---|---|---|---|---|---|---|
| | 1957 | 1956 | 1957 | 1956 | Deaths | Injuries | |
| TOTAL U. S.... ** | 30,908 | 32,082 | 1,129,301 | 1,077,968 | — 4 | + 5 | 37 |
| Ala. ..... 11 | 801 | 887 | 4,574† | 5,289† | — 10 | — 14 | 6 |
| Ariz. ..... 11 | 405 | 418 | 7,379 | 6,692 | — 3 | + 10 | 18 |
| Ark. ..... 11 | 451 | 430 | 2,789 | 2,804 | + 5 | — 1 | 6 |
| Calif. .... 11 | 3,312 | 3,373 | 122,501 | 119,285 | — 2 | + 3 | 37 |
| Colo. .... 10 | 303 | 354 | 9,135 | 8,950 | — 14 | + 2 | 30 |
| Conn. .... 11 | 256 | 262 | 18,780 | 16,822 | — 2 | + 12 | 73 |
| Del. ..... 11 | 82 | 80 | 2,381 | 2,360 | + 3 | + 1 | 29 |
| D. of C. 11 | 55 | 49 | 6,418 | 6,636 | + 12 | — 3 | 117 |
| Fla. ..... 11 | 948 | 1,085 | 29,006 | 27,335 | — 13 | + 6 | 31 |
| Ga. ..... 11 | 884 | 997 | 7,878 | 9,696 | — 11 | — 19 | 9 |
| Idaho .... 9 | 144 | 195 | 1,900 | 2,066 | — 26 | — 8 | 13 |
| Ill. ..... 11 | 1,896 | 1,926 | 82,548 | 78,375 | — 2 | + 5 | 44 |
| Ind. ..... 11 | 1,038 | 1,099 | 34,888 | 34,741 | — 6 | + * | 34 |
| Iowa .... 11 | 618 | 632 | 19,481 | 19,063 | — 2 | + 2 | 32 |
| Kans. .... 11 | 513 | 605 | 9,890 | 9,890 | — 15 | 0 | 19 |
| Ky. ..... 11 | 716 | 694 | 12,768 | 11,625 | + 3 | + 10 | 18 |
| La. ..... 2 | 112 | 117 | 1,186 | 1,224 | — 4 | — 3 | 11 |
| Me. ..... 11 | 136 | 145 | 5,697 | 2,730 | — 6 | +109 | 42 |
| Md. ..... 11 | 512 | 497 | 17,276 | 17,777 | + 3 | — 3 | 34 |
| Mass. .... 8 | 301 | 348 | 57,215 | 57,096 | — 14 | + * | 190 |
| Mich. .... 11 | 1,329 | 1,543 | 52,461 | 53,592 | — 14 | — 2 | 39 |
| Minn. .... 11 | 623 | 575 | 21,541 | 20,911 | + 8 | + 3 | 35 |
| Miss. .... 11 | 456 | 483 | 5,780 | 5,917 | — 6 | — 2 | 13 |
| Mo. ..... 11 | 887 | 1,010 | 10,842 | 10,793 | — 12 | + * | 12 |
| Mont. .... 10 | 161 | 217 | 2,203 | 2,447 | — 26 | — 10 | 14 |
| Neb. .... 11 | 266 | 276 | 8,762 | 8,356 | — 4 | + 5 | 33 |
| Nev. ..... 2 | 15 | 14 | 266 | 237 | + 7 | + 12 | 18 |
| N. H. .... 11 | 84 | 91 | 5,115 | 5,109 | — 8 | + * | 60 |
| N. J. .... 9 | 603 | 547 | 41,751 | 40,824 | + 10 | + 2 | 69 |
| N. M.... 11 | 394 | 351 | 4,437 | 3,751 | + 12 | + 18 | 11 |
| N. Y. .... 9 | 1,512 | 1,499 | 187,648 | 160,309 | + 1 | + 17 | 124 |
| N. C. .... 10 | 871 | 886 | 15,489 | 15,561 | — 2 | — * | 18 |
| N. D. .... 11 | 130 | 154 | 2,115 | 2,025 | — 16 | + 4 | 16 |
| Ohio .... 11 | 1,823 | 1,790 | 71,704 | 70,880 | + 2 | + 1 | 39 |
| Okla. .... 11 | 625 | 616 | 12,709 | 12,111 | + 1 | + 5 | 20 |
| Ore. ..... 11 | 401 | 385 | 14,393 | 15,612 | + 4 | — 8 | 36 |
| Pa. ..... 11 | 1,497 | 1,581 | 75,772 | 76,248 | — 5 | — 1 | 51 |
| R. I. .... 2 | 9 | 6 | 1,190 | 1,120 | + 50 | + 6 | 132 |
| S. C. .... 11 | 666 | 661 | 9,738 | 10,608 | + 1 | — 8 | 15 |
| S. D. .... 11 | 167 | 172 | 2,908 | 2,557 | — 3 | + 14 | 17 |
| Tenn. .... 11 | 626 | 682 | 12,062 | 10,136 | — 8 | + 19 | 19 |
| Texas .... 11 | 2,283 | 2,337 | 57,247 | 53,497 | — 2 | + 7 | 25 |
| Utah ..... 8 | 132 | 137 | 3,300 | 3,123 | — 4 | + 6 | 25 |
| Vt. ..... 11 | 95 | 90 | 2,588 | 2,456 | + 6 | + 5 | 27 |
| Wash. .. 11 | 483 | 481 | 23,224 | 20,456 | + * | + 14 | 48 |
| W. Va... 11 | 424 | 387 | 7,004 | 7,138 | + 10 | — 2 | 17 |
| Wis. ..... 10 | 744 | 788 | 21,711 | 20,119 | — 6 | + 8 | 29 |
| Wyo. .... 9 | 119 | 130 | 1,651 | 1,619 | — 8 | + 2 | 14 |

†Rural injuries only.

††All figures are preliminary. To insure proper comparisons, 1956 figures cover the same reporting period as those for 1957.

*Less than .5%.

**Death and injury totals cover reports for all months indicated in this column.

### When the Law's Around

*From Page 40*

makes it clear that warning tickets are not to be substituted for arrests when violations are serious. He adds: "But we do believe that warnings are an effective way to handle minor or borderline cases. Such warnings increase our contacts with drivers. They help convince many drivers that our primary purpose in highway patrol activities is to encourage *voluntary* compliance with the traffic laws."

**Speeding evidence on clock brings traffic citation for motorist.**

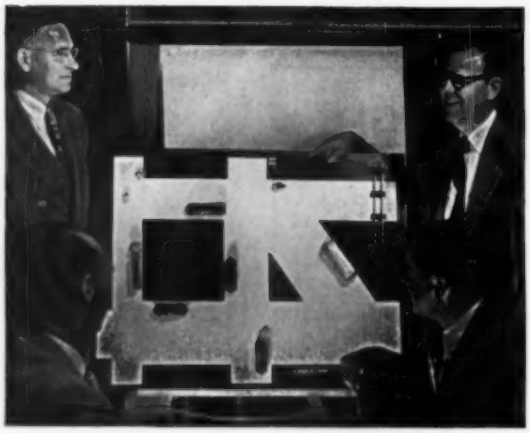
Colonel Beier isn't among those who believe driver education is the sole answer to the highway accident problem. "Generally speaking," he points out, "drivers know the law. They know what's right and what's wrong. What they need is more respect for the law—and for the officers of the law. That's why we've screened our men so thoroughly."

On the wall in Colonel Beier's office is a large state highway map. Portions of some of the roads are traced in red, some in yellow, some in green. They represent, in decreasing order, the heavy fatality stretches on Wisconsin highways. Like an army commander deploying troops, Beier can concentrate his personnel in the danger areas. His prime objective is to transform the red stretches to yellow, the yellow to green.

He knows the job will never be completely done. There will always be accidents. And drivers will die.

But he's sure that the toll could be dramatically cut if everyone drove as though that car behind bore the big, bold emblem, "STATE PATROL."

Circle Item No. 5—Reader Service Card



# THE "EYES" HAVE IT . . . .

Here is an aid that has proven practical in teaching visually the principles of safety. It's simple, effective and works wonders in teaching your drivers.
The MAGNO SAF-T BOARD is the result of studies by outstanding safety instructors and engineers. Safety directors, traffic managers, driving instructors, insurance agents and adjusters get a clear picture of how accidents occurred visually by reconstruction of conditions.
It is now being used from coast to coast by fleet owners, insurance and public utility companies, colleges and schools, and many other concerns interested in public safety. Consisting of a BOARD with typical street intersections on one side. The other side is a BLACKBOARD on which any street or road situation can be drawn with chalk and then erased. It has scale models of vehicles, traffic markers and accessories that can be placed in any conceivable traffic situation.

*Write for our folder. It contains full information.*

**MAGNO SAF-T BOARD** c EMIGSVILLE, PA.

*You can have a supervisor ride on every truck for little more than 2¢ per trip!*

WAGNER-SANGAMO **TACHOGRAPH** reports all starts, idling, stops, speeds of entire run

You can get facts . . . at low cost . . . when you equip trucks with TACHOGRAPHS. It's like having your fleet supervisor ride on every trip . . . without leaving his desk.

Before each run, or at the beginning of each day, a chart is placed inside the Tachograph mounted on the dash. A complete graphic record of time of operation, duration of stops, speeds and distances traveled is automatically recorded on the chart.

Charts give graphic reports of every run . . . help cut unscheduled stops, let you plan better routing, help control the speed of vehicle, lower your operating costs by encouraging savings on gas, oil, tires . . . help make your drivers more safety conscious.

Bulletin SU-3 tells how TACHOGRAPHS can improve your fleet operation. Mail the coupon for your copy.

CHART TELLS ALL

Wagner Electric Corporation
6467 PLYMOUTH AVE. • ST. LOUIS 14, MO.
*Please send a copy of Bulletin SU-3*

Name_____
Company_____
Address_____
City_____ State_____
We operate_____ Vehicles WSSB-S

Circle Item No. 6—Reader Service Card

## Rural Speed

*From Page 19*

forcement policy by the officer in the field.

The principal requirements of a properly functioning speed control program are:

1. Intelligent and proper zoning.
2. Adequate signing.
3. Vigorous enforcement (with tolerances as described herein).
4. Public understanding of law.
5. Public support of enforcement.

The above requirements are amenable only to a fixed limit type speed law. A fixed limit type law does not obviate the need for a basic speed law. The proper application of a basic speed law is obtained when adverse conditions require the reduction of the speed limit, not when optimum conditions permit the raising of a speed law.

Recognizing the great need for a review of the speed problems, the National Committe on Uniform Traffic Laws and Ordinances early in 1954 appointed a new sub-committee on speed regulation. The function of the committee was to review the provisions relating to speed found in Sections 56 to 62 of Act V of the Uniform Vehicle Code and to recommend to the National Committee changes or additions. The first meeting of the new subcommittee was held in March 30, 1954.

Following considerable work by the sub-committee and the entire National Committee on Uniform Traffic Laws and Ordinances, Section 11-801 of the Uniform Code was amended to provide a maximum fixed speed limit of 60 mph in rural locations during the daytime and 55 mph during the nighttime. The Department of California Highway Patrol feels that the five mile differential is impractical and creates an enforcement problem for the administrator.

In consideration of the elements contained in Section 11-802 of the Uniform Code, a maximum speed limit of 65 mph appears reasonable. This recommendation is supported, at least in California, by a statewide speed survey, conducted on state highways during October 1956. The survey showed that passenger cars averaged 59.8 mph on rural freeways as compared to an average speed of 55.6 mph for all loca-

tions. Comparable critical speeds were 67.1 mph and 64.9 mph, respectively.

The need for the individual states collectively to adopt uniform, reasonable, intelligent, enforceable speed laws has never been more apparent.

For the first time, the national government recognized the gravity of the traffic conditions by incorporating into the new federal-aid highway legislation, provisions for the study of traffic safety needs. Items to be considered are:

1. Need for federal assistance in the enforcement of safety and speed requirements.
2. The advisability of uniform state and local highway safety and speed laws.
3. Possible means of promoting safety in the manufacture of vehicles.
4. Educational programs to promote highway safety.
5. Design and physical characteristics of highways.

Study findings will be reported to Congress in 1958.

The reduction of traffic hazards through traffic engineering and development of adequate roads and streets is essential to any sound traffic control program. The importance of engineering and education should not be minimized, however. Experience indicates that few people take pride in being safe.

Traffic law enforcement is a deadly serious business and not a sports contest between the officer and the motorist played by a set of illogical and prejudicial rules. The duty of the traffic law enforcement administrator is to utilize weapons available to him.

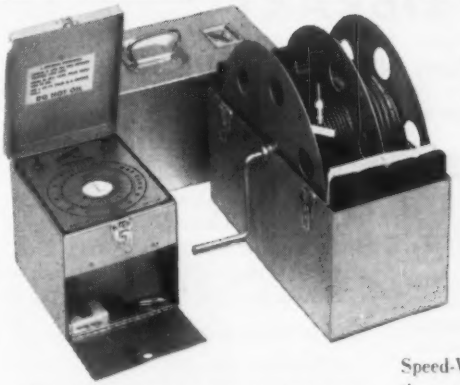
Traffic officers, probably more than all others in the economic structure, are in a more vulnerable position to suffer the condemnation of the public in a mere discharge of a duty. The more effectively this duty is discharged the greater the opportunities for emotional conflict.

Significant in this respect is the observation that traffic violations are common to all classes and levels of society. No striking evidence has been found to indicate any particular section of society is more ready than any other to accept traffic law enforcement for its true worth and purpose.



Circle Item No. 7—Reader Service Card

SPEED-WATCH...PIONEERS IN THE FIELD... NOW WITH THESE EXCLUSIVE FEATURES



★ NEW AUTOMATIC OPERATION
★ NEW WEIGHT SWITCHES
★ NEW IMPROVED CONNECTORS
★ CERTIFIED ACCURACY

*Proven by over 1500 users*

• The Speed-Watch is the simplest, most accurate, and best way for checking speed. Operator of the new Speed-Watch has only to flip the single toggle switch. Automatically the Speed-Watch will time the vehicle as it passes between two road tubes and the speed registered will be shown in M. P. H. on a large, clear dial.

Speed-Watch has international distribution and is widely used by many State Police departments. Over 1500 users will testify to the fine performance and gratifying results of Speed-Watch.

Available in 22 foot field distance for automatic operation; 66 foot for both automatic and manual operation and 132 foot for manual operation only.

*Limited number of territories open to qualified agents.*

*Better Enforcement • Less Speeding • Fewer Accidents*

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360° REVOLVING LIGHT

★ FREEZE PROOF
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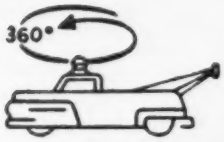


HI-BALL TRIPPE

**For wreckers, ambulances, emergency vehicles of all types, here is the most eye-catching, effective light made. Price is LOW! Ultimate in a WARNING light! Flip the switch and instantly the parabolic mirror rotates about the 100 candlepower bulb . . . 60 TIMES A MINUTE! Flash is so intense that all traffic is alerted.**

**TRIPPE MFG. COMPANY** **Dept. D-2**
**133 N. Jefferson St.** **Chicago 6, Ill.**

Circle Item No. 8—Reader Service Card

# THE SAFETY LIBRARY

## By Ruth Parks, Librarian, NSC

**Books, pamphlets, and articles of interest to safety men.**

*Accidents*

Causes of Highway Accidents: United States Experience. Libert Ehrman. *Traffic Quarterly*, p.30-57, Jan., 1958.

(Statistical basis of cause information and need for more research. Includes economic cost and accident statistics.)

*Administration*

Leadership in Action. Russell I. Brown. *Traffic Digest & Review*, p.1+, Jan., 1958.

(Present traffic conditions and aspirations of Iowa Department of Public Safety.)

Tools for Creating a Traffic System. Duane L. Cronk. Part 2. *Street Engineering*, p.4-6+, Jan., 1958.

(Baltimore's traffic department's success with radio equipment, sign maintenance, teletype and pavement markings.)

*Alcohol*

Setting Up Chemical Tests for Intoxication. Public Safety Memo 30. 8 p. 20c. 1957 revision. National Safety Council, 425 N. Michigan Ave., Chicago 11, Ill.

*Buses*

Geometric Design of Loading Platforms and Bus Runways for Local and Suburban Bus Terminals. *Traffic Engineering*, p.32-40, Jan., 1958.

(A report of Technical Committee 6-C of the Institute of Traffic Engineers.)

*Computers*

Basic Theory of Electronic Computers. Walter Kudlick. *Traffic Engineering*, p.20-23, Jan., 1958.

*Conferences*

Proceedings of the Thirty-Sixth Annual Meeting, Jan. 7-11, 1957. NAS-NRC Publication 542. 834 p. 1957. Highway Research Board, 2101 Constitution Ave., Washington, D. C.

U. S. Canadian Public Officials Conference on Traffic Safety. *Traffic Digest & Review*, p.10-13+, Jan., 1958.

(Public Officials Traffic Safety Conference Sponsored by the President's Committee for Traffic Safety, Dec., 1957. Highlights Special recommendations.)

*Driver Licensing*

Appraisal of Facilities for Vehicle Registration and Driver Examination in Cook County. Prepared by G. W. Barton and Associates. 40 p. 1957. Secretary of State, Springfield, Ill.

(A study of location, size and appraisal of physical facilities available for driver licensing examinations and vehicle registrations.)

*Drivers and Driving*

Expressways Can Be Safeways. 4 p. 1957. Association of Casualty and Surety Cos., 60 John St., New York 38, N. Y.

(Basic rules for driving expressways.)

Pursuit Driving. A Handbook for Law Enforcement Officers. U. S. Internal Revenue Service. Publication No. 403. 14 p. 1957. 15c. Superintendent of Documents, Washington 25, D. C.

You're in The Driver's Seat. 4 p. 1957. Association of Casualty and Surety Cos., 60 John St., New York 30, N. Y.

(Basic Driving Rules.)

*Emergency Vehicles*

Safe Movement Plans Are Discussed for Emergency Vehicles. Richard C. Lee. *Traffic Quarterly*, p. 80-89, Jan., 1958.

(Hartford, Conn., installs radio controls at intersections and on fire equipment.)

*Enforcement*

Enforcement Can Cut Toll, Officials Agree. *Traffic Digest & Review*, p.11, 14.

(Public Officials Traffic Safety Conference, Dec., 1957. Outlines traffic needs for enforcement.)

*Fatigue*

Sleep Deprivation Effects on Components of Driving Behavior. T. W. Forbes. *Highway Research Abstracts*, p.21-26, Jan., 1958.

(Part of some research sponsored by Pennsylvania Turnpike Commission.)

*Grade Crossings*

Signs of Life. A Report of Highway-Railroad Crossing Committee — Railroad Section, 1957. 10 p. 1958. National Safety Council, 425 N. Michigan Ave., Chicago 11, Ill.

*Highways*

43 Per Cent More Peak-Hour Capacity—Without Widening. *Street Engineering*, p.16-17, Jan., 1958.

(Market Street, Philadelphia. Elevated and car tracks removed, pavement, signaling improved.)

Highway Officials Weigh Urban Problems. *Street Engineering*, p.15+, Jan., 1958.

(Some highlights from AASHO annual meeting, Nov., 1957.)

How Road-Users Appraise Roads. Matthew C. Sielski, *Traffic Quarterly*, p.102-112, Jan., 1958.

(Billboards, road signs, facilities, variety in road design and landscape.)

The Massachusetts Turnpike. William F. Callahan. *Traffic Quarterly*, p.90-101, Jan., 1958.

(Planning financing and building a toll highway.)

Planning Our Urban Expressways. Eugene Maier. *Traffic Quarterly*, p.132-147, Jan., 1958.

The Seattle Freeway. W. A. Bugge. *Traffic Quarterly*, p.69-79, Jan., 1958.

(Urban freeway planned with twelve lanes, four of them reversible.)

Urban Highway Construction and Its Regional Effects. George W. Burger and James L. Ray. *Traffic Quarterly*, p.113-123, Jan., 1958.

(New York Metropolitan Area.)

What The New Freeway Will Mean To You. Ray Vicker. *Better Homes & Gardens*, p.60-61, 156-157+.

(Forecasts for 1970 travel, cost and accidents.)

*Lighting*

Effect of Highway Lighting on Night Capacity. Paul C. Box. *Traffic Engineering*, p.9-15, Jan., 1958

(A study of headways and speed on four-lane divided highways to determine effects of lighting on road capacity.)

***Planning***

Regional Planning in Connecticut: The Next Step To The Future. Robert P. Lee and William Blakely. *Traffic Quarterly*, p.58-68, Jan., 1958.

Transportation An Essential Part of Any Comprehensive Planning. Roland B. Greeley. *Traffic Quarterly*, p.5-16, Jan., 1958.

***Research***

Automotive Crash Injury Research, *Technical Traffic Today*, Dec., 1957. No. 4. 9 p. Association of Casualty and Surety Companies, 60 John St., New York 38, N. Y.

(Early work, cooperation, and some findings on automobile structure and seating.)

***Speed***

Progress Reported in Judicial Recognition of Speed Check Devices. Robert L. Donigan. Part 1. *Traffic Digest & Review*, p.24-29, Jan., 1958.

***Signs and Signals***

How Signal Changes Cut Accident Rate at Busy Intersection. H. K. Perkins, Jr. *Street Engineering*, p.12-13, Feb., 1958.

(Case example.)

## Addresses of Magazines Mentioned

*Better Homes and Gardens*
Meredith Publishing Co.
Des Moines, Iowa

*Highway Research Abstracts*
Highway Research Board
2101 Constitution Ave.
Washington 25, D. C.

*Street Engineering*
Gillette Publishing Co.
22 W. Maple St.
Chicago 10, Ill.

*Traffic Digest & Review*
Traffic Institute
Northwestern University
1804 Hinman Ave.
Evanston, Ill.

*Traffic Engineering*
Institute of Traffic Engineers
2029 K St., N. W.
Washington 6, D. C.

*Traffic Quarterly*
Eno Foundation for Highway Traffic Control
Saugatuck, Conn.

***Winter***

Indianapolis Turns to Straight Salt. *Street Engineering*, p.23-24, Jan., 1958.

***Women's Activities***

Tell Success of Women's Traffic Seminars. *Traffic Digest & Review*, p.17+, Jan., 1958.

(Report at Public Official's Traffic Safety Conference, Dec., 1957, on effectiveness of 6 seminars at various universities.)

Circle Item No. 9—Reader Service Card

**A BOOK THAT GIVES THE SPIRITUAL SIDE OF TRAFFIC SAFETY**

*by Dan Hollingsworth and Ona Belknap*

Single Copy **$1.00**

1 to 9 Copies: $1.00 Each
10 to 24 Copies: 95c Each
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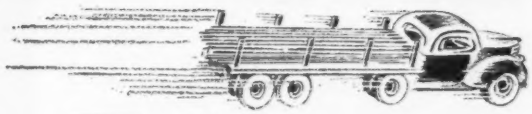

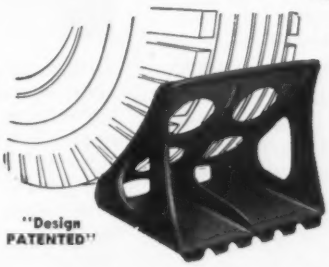


**IF YOUR PARKING BRAKES FAIL**

on a tricky grade or at a loading platform, you will wish you had been using a set of Standard

**Wheel Blocks WB2H**

These Casteel ***Safety*** Wheel Blocks meet all chocking requirements for guarding against slips and hazards in parking, loading, towing and emergency stops on steep grades.

They are standard equipment used by many transportation companies and fleet owners of trucks and trailers.

Made of high-strength Casteel with ribbed supports and rounded corners. Cast in one-piece and provided with deep gripper teeth to hold securely on any surface . . . ice, snow or concrete.

***Write for Bulletin No. C-58***

**CALUMET STEEL CASTINGS CORP.**
1636 SUMMER STREET HAMMOND INDIANA

Circle Item No. 10—Reader Service Card

# NEW... SAFETY EQUIPMENT

***Publication of product announcements in this section should not be construed as endorsement or approval by the National Safety Council.***

## Flashing Light Barricade

The Sentry safety-flash barricade has a brilliant synchronized flash for increased visibility. The lights are built into the panel for protection against flying objects.

This unit is ruggedly constructed and light weight, easy to handle, and durable. Twenty-two hundred hours of continuous flashing is guaranteed with each new battery. The plastic flashing unit has an unconditional guaranty against damage or failure. The light system will operate under all weather conditions and is fool-proof and tamper-proof.

All parts are replaceable and guaranteed against defects.

**Traffic Equipment Corp., 2064 S. Bannock St., Denver 23, Colo. (Item 41)**

## Signal-Lite Road Markers

This improved type road marker is built to withstand rough service. It is both useful and practical for construction contractors, street and highway maintenance departments, highway police, trucking firms and others who must temporarily alter or signal normal traffic flow. A choice of several standard interchangeable reflective panels is available. The Signal-Lites are packaged two per carton.

The markers stand out clearly in daylight and are brightly reflective at night. They are light weight and have a detachable flag. The Scotchlite plastic panels are interchangeable and are held by a strong cadmium plated steel base.

**Signal-Lite Road Marker Co., P.O. Box 10535, Pittsburgh 35, Pa. (Item 42)**

## Flexible Fin Traffic Control

Flexible Fin Lane Dividers can be used when and where needed to relieve traffic congestion caused by unequal traffic flow in all types of metropolitan and suburban locations. Four-lane streets normally marked for a 2:2 lane ratio of traffic flow can be easily and quickly converted during heavy traffic flow to a 3:1 lane flow in either direction. On 3-lane streets or on 2-lane streets of sufficient width conversion can be made from a 1:1 ratio to a 2:1 lane set-up as required by the density of traffic during any given period of the day.

The dividers are originally set in position by a work crew in a minimum of time. Once in place, lane conversion is accomplished by using a jeep with a unique conveyor attachment that can be set-up for ½, 1, or 2-lane throw-over in a matter of minutes. The illustration shows the jeep with the conveyor in the principle of lane conversion.

The dividers are available in two models, either rectangular or circular. The structural design and weight of the dividers keep them in position under heaviest traffic condition. The raised grid design causes a rumbling warning when driven upon and discourages traffic cross-over.

**Riner Corp., 8 S. Michigan Ave., Chicago 3, Ill. (Item 43)**

## Highway Guide Signs

Illuminated highway signs are in use on Kentucky's North-South Expressway to provide the earliest possible identification of warnings and directions. The fixtures are mounted 30" in front of signs at angles of 45 degrees and are used to illuminate all guide signs on the modern highway. The units are turned on and off by the same photoelectric cells that control the mercury vapor luminaries mounted at all interchanges along the turnpike. By lighting guide signs to give motorists more time to make necessary decisions, the Kentucky Department of Highways has reduced the hazards posed by one of the "seven deadly areas of driver decision."

**General Electric Co., River Road, Schenectady 5, N. Y. (Item 44)**

## Police Radio

A low-priced 450-megacycle band UHF mobile radiotelephone for public safety and civil government use has been placed on the market.

The TR500 FM mobile radiotelephone may be operated on any frequency in the 450-460 megacycle bands and is said to be the lowest-priced, commercial grade instrument of its type.

**For More Information—Circle Item on the Reader Service Postcard**

The new set was designed specifically for use in medium size and small communities where its normal 10-mile base-to-mobile communicating range will suffice. Ranges of 50-200 miles between base and mobile stations and from mobile-to-mobile can be obtained by utilizing an automatic repeater station, the range depending upon the effective elevation of the repeater station and the character of the terrain.

The single-package unit weighs only 26 pounds and is 14½ inches long, 13 inches wide and 5¾ inches high.

**Kaar Engineering Corp., 2995 Middlefield Road, Palo Alto, Calif. (Item 45)**

## Truck Signs

Distinctive, colorful, individualized signs for all types of trucks are completely rust-proof and made of zinc-coated bonderized steel or aluminum. Each sign is specially made — the colors, design and size are designated by the trucker. The signs are fastened to the truck body with rust-proof bolts, screws and rivets. The weather-resistant flexible enamels applied by the hot-spray method and then baked will last the life of the sign. The baked enamel lettering is silk-screened for sharpness and clarity. Split sign arrangement can be provided for roll-up doors or for tailgate side opening doors.

The manufacturer also has a wide variety of stock signs for use in trucking, parking lots, garages, etc. Over 1200 parking, traffic control, directional, safety and other signs are available.

**Eastern Metal of Elmira, Elmira Heights, N. Y. (Item 46)**

## Traffic Signals

Autoflow Fixed-Face Traffic Signals are designed to provide a complete selection for individual traffic needs. These designs include all types of mounting arrangements and feature simplicity of design to assure low-cost, efficient operation.

The units resist wear and weather conditions and individually mounted doors have internal locking latches that are unaffected by ice accumulation or repainting.

A one-piece, molded Neoprene gasket is fitted over the edge of the lens. The gasket presses firmly into the signal door, clamps into position and effectively seals the front, the edge and the back of the lens against dust or moisture entering around the lens or in the door opening.

Autoflow adjustable traffic signals are designed for multiple section signal-face assembly by fastening individual housings together with 3-stud fittings, thus combining housings to compose multiple signal units for specific signal-face requirements.

**Southern Signals, Inc., 222 Beach St., P.O. Box 1303, Shreveport, La. (Item 47)**

## Paper Windshield Wiper

No. 570 is a "heavy duty" automotive windshield wiper which can clean and dry windshields easily and quickly.

The wipers consist of two soft and absorbent paper plies made of fine paper pulps and specially treated for wet-strength. The wiper has high water retention capacity and has greater basis weight and is priced competitively with other windshield wiping products.

The wipers are packaged 150 to a paper sleeve, 16 sleeves to a case. The wipers measure 10"x10½" and fit various service station cabinets. In addition to their use for windshield cleaning the new service wipers are ideal for other wiping chores around garages and service stations.

**Scott Paper Company, Chester, Pa. (Item 48)**

## Turn Signal Flasher

An automotive turn signal Flasher that has longer life, more instant flashing response, greater audibility and safety, has a new construction design and features a special closed wiring arrangement to provide instant and unvarying rate of flashing in compliance with S.A.E. specifications. The six and twelve-volt flashers offer long dependable operating performance and greater electrical system protection. The indicating lamps light immediately upon closing the turn signal switch. A loud, audible clicking sound is generated by the flasher to clearly indicate that the turn signal is on.

The flashers have surpassed S.A.E. Class A test requirements. They are available for original manufacturers of cars, trucks, buses, motorcycles, and are also for replacement parts.

**Qualectric Corp., 990 E. 67th St., Cleveland 3, Ohio. (Item 49)**

## Truck Seat

This seat irons out highway washboard surfaces giving the truck driver a passenger car ride. The Bostrom Level Ride 80 suspension truck seat can be adjusted to the weight of any driver. By turning the handle, he preloads the two rubber torsion springs of the suspension system. The torque placed in the springs enables them to function as "knees" soaking up back-breaking jolt and jar. The truck seat can be purchased as optional factory installed equipment on Deluxe or Custom cabs and the Cameo Carrier of Chevrolet trucks.

**Bostrom Mfg. Co., 133 W. Oregon St., Mil. (Item 50)**

# SAFETY PRODUCT LITERATURE

## Makes Traffic Signs Shine By Night

Flex-O-Lite's new 831 reflective sign system is recommended for both white and yellow signs. The improved glass bead is easily applied at low cost to give street-name and traffic signs greater reflectivity and message legibility. A new Storm-Cote protective coating assures improved weather, water, dirt and wear resistance. Flex-O-Lite Mfg. Co., P.O. Box 3066 (Affton Branch), St. Louis 23, Mo.

For more details circle No. 81 on enclosed return postal card.

## New Flasher Barricade

Wherever you need an effective warning device—at street construction and repair sites—you can depend on this new flasher barricade. The entire unit weighs less than 30 pounds and can be set up in seconds. There are no moving parts in the flasher. Park Industries, Inc., 4328 Oakwood Blvd., Melvindale, Mich.

For more details circle No. 82 on enclosed return postal card.

## Traffic Signs Embedded In Pavement

Easily and permanently bonded to the street surface, these brightly colored plastic mats are highly reflective and provide long wear—even under the heaviest traffic conditions. Literature gives full details on Nefmats, Plastic Traffic Signs, and Nefslabs, Plastic Markers, Strips and Arrows. J. W. Neff Laboratories, Inc., Stockertown 10, Pa.

For more details circle No. 83 on enclosed return postal card.

## Provides Automatic Off-Street Parking

No attendants are needed when off-street parking needs are handled by Parcoa Automatic Gates. Controls include coded "Card-Keys," Coins, Tokens, Ticket Dispensers, or any combination. The system is easy to operate, safe and dependable. Parcoa Division of Johnson Fare Box Co., 4619 N. Ravenswood Ave., Chicago 40, Ill.

For more details circle No. 84 on enclosed return postal card.

## Aluminum Traffic-Control Devices

Signs and sign posts constructed of long wearing aluminum are easy to erect and inexpensive to maintain. The easy-to-read directional and informational signs won't rust or corrode. "Scotchlite" reflective sheeting is said to adhere better and longer. New handbook gives full details. Aluminum Co. of America, 1680 Alcoa Bldg., Pittsburgh 19, Pa.

For more details circle No. 85 on enclosed return postal card.

## Traffic Light Flashing Unit

A high speed flasher flashing the red traffic signals at 150 to 200 cycles per minute provides for additional awareness of the red light. However, this device may be flashed from 1 to 350 flashes for special use at critical intersections where neon signs predominate. This unit is said to withstand over 600,000,000 operations or a year's service. General Electronics Corp., 17 Madison Ave., Montgomery, Ala.

For more details circle No. 86 on enclosed return postal card.

## Cone Traffic Guide

A new traffic guide called "Poly-Cones," specially molded of Polyviny Chloride, a tough plastic-type substance that remains pliable, has recently been introduced to the trade. It is stated that the cones will not crack or tear even when run over by the heaviest trucks or buses, and remains "full color" for life, without peeling. The cones are available all yellow or with brilliant fluorescent color for extra visibility. Radiator Specialty Co., Charlotte, N. C.

For more details circle No. 87 on enclosed return postal card.

## Plain Facts About the Advantages of Multi-Wheel Drive

A new 16-page book on the design features and advantages of multi-wheel drive trucks for both on-and-off highway applications in oil fields, utilities, firefighting, construction, road maintenance, transport, ready-mix, and logging is available from Four-Wheel Drive Auto Co., Clintonville, Wis. The booklet shows comparative design of conventional trucks and four and six-wheel drive vehicles. Through photos and diagrams, the book also details ways in which multi-wheel drive trucks are engineered for on-highway, as well as off-highway performance.

For more details circle No. 88 on enclosed return postal card.

## Revolving Light

Literature describes this 360° revolving light designed for wreckers, ambulances, and emergency vehicles of all types. Flip the switch and instantly the parabolic mirror rotates about the 100 candle-power bulb—60 times a minute. The flash is so intense that all traffic is alerted. Trippe Mfg. Co., 133 N. Jefferson St., Chicago 6, Ill.

For more details circle No. 89 on enclosed return postal card.

## Blast Away Old Traffic Lines

You can erase about three feet a minute of average worn centerlines with a cyclone traffic line remover. Only one man is needed to operate this efficient machine. Cyclone Sandblast Equipment, 42 Clara St., San Francisco, Calif.

For more details circle No. 90 on enclosed return postal card.

## Revitalize Your Old Traffic Signs

Old traffic signs can be made new again with Grace "Ez-On" Sign Faces. These reflectorized faces can be applied in minutes right over your present signs. Only a crimping tool is needed. Grace Sign and Mfg. Co., 3601 S. Second St., St. Louis 18, Mo.

For more details circle No. 91 on enclosed return postal card.

## Operating Tractor Semi-Trailers

Publication of a new operating manual for truck drivers with a special section on jack-knifing is available from Mack Trucks, Inc., 1355 W. Front St., Plainfield, N. J. The 41 page manual is written in easy-to-read fashion for not only the beginner operator, but also as a refresher for the professional driver; it contains special diagrams and illustrations and covers all phases of tractor-semi trailer operation. Special emphases is given to accepted safe-driving practices.

For more details circle No. 92 on enclosed return postal card.

## Traffic Surveys

Illustrated bulletin describes a time-tested device for traffic counting. Called the Trafi-Counter, Jr., traffic volume is easily read on direct reading counter. It is pneumatically actuated by means of the road tube attachment. Streeter-Amet Co., Grayslake, Ill.

For more details circle No. 93 on enclosed return postal card.

## Tachograph

Bulletin SU-3 describes a recording speedometer for trucks. It gives a graphic report of the entire trip of a vehicle; when the engine started, how long it idled, when the vehicle was in motion, how fast it traveled, when it stopped and the distance traveled between stops. Wagner Electric Corp., 6467 Plymouth Ave., St. Louis 14, Mo.

For more details circle No. 94 on enclosed return postal card.

## Turns Street Lights On or Off

Automatic, dependable switching of street lighting circuits when illumination is needed, regardless of time of day, season or weather, is assured with Fisher-Pierce Photoelectric Lighting Control. Literature gives full details. The Fisher-Pierce Co., Inc., 82 Pearl St., Boston 85, Mass.

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## Street Lighting Poles and Brackets

In the complete Hapco line of standards and brackets are designs for all types of outdoor lighting installations. These efficient units are made from corrosion-resistant aluminum, which means they never require painting. Hubbard Aluminum Products Co., 6300 Butler St., Pittsburgh 1, Pa.

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## An Effective Auto for Police Duty

With the new Plymouth, you get a car that is built to take the heavy grind of police work. A complete selection of factory-installed police car equipment lets you tailor your fleet to fit your department's exact needs. Plymouth, 6333 Lynch, Detroit, Mich.

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# DRIVER EDUCATION PAYS OFF FOR FIFTH ARMY

Statistics reported from each of the 13 states of the Fifth U. S. Army have shown that a broad program of driver education and training for Reserve Forces has succeeded in making highway travel less hazardous. National Guard and U. S. Army Reserve units, travelling to and from training sites in the 1957 training season, had an enviable record of traffic safety.

Army Reserve and National Guard units travelled 24,435,962 vehicle miles in government and private vehicles. During this movement there were only 91 accidents that resulted in 22 injuries and one death.

Comparison of these figures with national rates shows the Army accident rate 50 per cent below, the injury rate 59 per cent below, and the fatality rate 38 per cent below the civilian highway rates.

The basis of the success of the Fifth Army's safety program began months in advance of the training season. In each Reserve and National Guard unit, lectures and movies stressed the need for caution on the highways and the part played by driving courtesy in the safe operation of motor vehicles. Careful attention was given to the selection, testing, and licensing of drivers.

As this education program progressed, routes for troop movement were considered, both for convoys and for private vehicles, and plans made to avoid traffic congestion and potentially dangerous bottlenecks. Conferences were held with civilian traffic coordinators. This civilian-military cooperation was extended to include the working together of civilian and military police organizations. Army convoys were escorted through or around metropolitan areas having high traffic density by state and local police.

### Courtesy Reports

The Fifth Army's "Courtesy Report" has been a highly important factor in the reduction of motor vehicle accidents involving military personnel according to Army Headquarters safety officials.

Initiated in 1952, with the cooperation of civilian authorities throughout the 13-state Fifth Army area, the system provides Army commanders with information concerning unsafe driving practices by members of their organizations, so that corrective measures may be taken.

Courtesy reports from civilian law enforcement agencies of civil traffic law violations by military personnel are the basis for remedial driver training at Army installations.

**MILITARY CONVOY is given highway safety send off by Major Gen. W. H. Nutter, Deputy Commanding General of 5th Army Hdqrs.**

The number of traffic fatalities and disabling injuries resulting from the operation of privately-owned motor vehicles has been reduced each year, a review of courtesy report statistics shows.

---

### Government Liable For Wartime Accident

The U. S. Court of Claims decided a case arising from a wartime accident in which a truckload of ammunition exploded on the public highway, with resultant extensive personal injuries and property damage. Although transportation was by a common carrier, the Army itself had loaded and sealed the truck. The Court of Claims said although the government's legal liability was in doubt, the 189 claimants had an equitable claim against the United States on the basis of "the compassionate responsibility of the United States."

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## Greeks Had a Word

*From Page 29*

ten driving quiz, and then underwent four obstacle courses, testing parallel parking, ability, judgment on stops, driving forward and backing skill through obstacles.

Each contestant was given a certificate from the Ohio State Safety Council. The first place winners of the men's and women's divisions received trophies for their respective houses and the second and third place winners were awarded plaques—all donated by local merchants.

Four local auto dealers loaned 12 new vehicles for use in the competition. The Ohio Trucking Association set up the obstacle course for the contest, and the student chairman of the event provided a coffee and doughnut vending truck to warm up the contestants.

After the contest all entrants and spectators hurried to the Student Union where a brief ceremony wound up the day's events. At this time the winners of the housing inspection—a contest held to find the "safest" fraternity and sorority houses—were revealed and awarded trophies. Winners of the driving skill contest were introduced and awarded trophies by James McElhaney, assistant dean of men at Ohio State University and Dan Webster of the National Safety Council.

Mr. Webster congratulated the Greek letter leaders for their outstanding performance. He explained that Ohio State's Greek Week Safety program was a pilot study for promoting accident prevention activities on other college campuses.

The driving skill contest and the motor vehicle inspection highlighted the traffic safety campaign during the week. However, other publicity stunts and campaign techniques were employed to educate the students, faculty and nearby residents. A badly wrecked car was stationed in the middle of the University "Oval"—the center of the campus. Original posters carrying the theme "The Greeks Had A Word For It—Safety" caught students' eyes in every campus building, local "pubs," and restaurants.

The students were constantly reminded to talk about safety—and talk they did! Student speakers were trained and then rotated among sorority and fraternities houses giving safety speeches during dinner hours.

Their attitude was summed up in an editorial in their student newspaper, which put it, "Accidents are a social problem . . . a problem which involves us as college students. For if we fail to take action and to provide the leadership for the reduction of accidental deaths—who will?"

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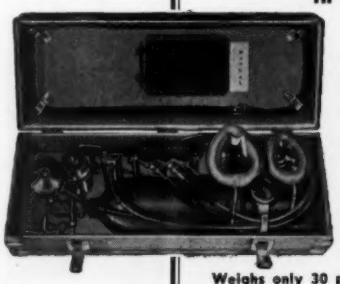

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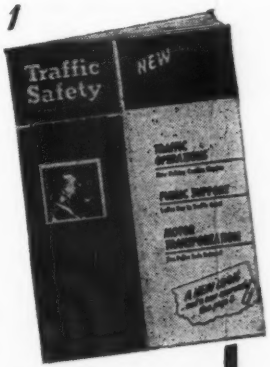


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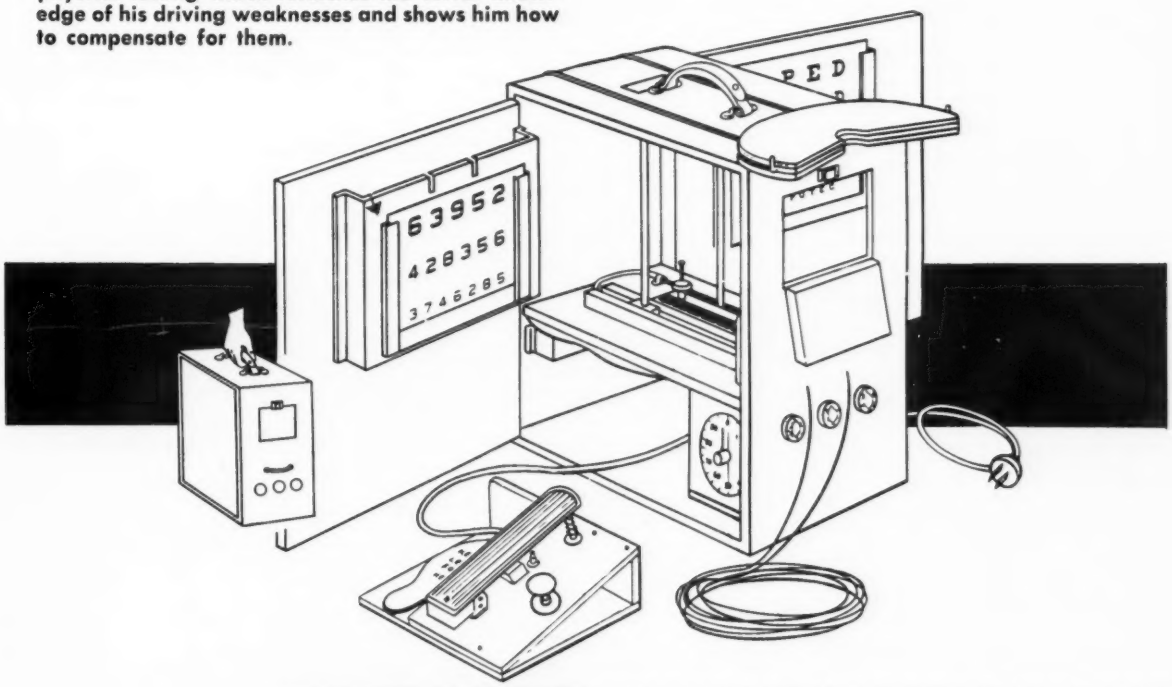


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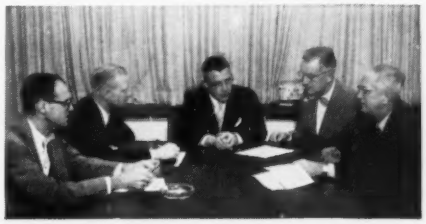
# A "bosun" showed us where we were missing the boat



We were just wrapping up a Personnel-Relations meeting when the head of Marine Transportation spoke up. "A crewman aboard the *Melissa* wants to have U.S. Savings Bonds deducted from his pay. Can do?"

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